

Law Commission of Ontario

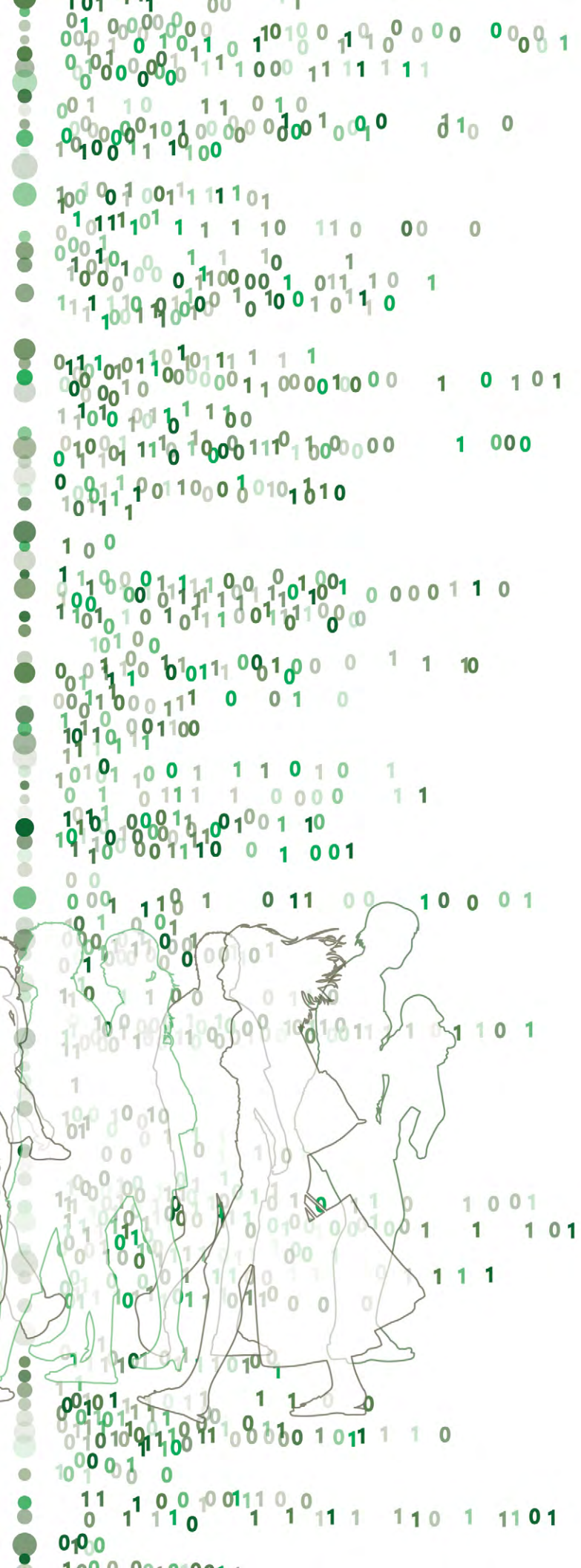
AI IN CRIMINAL JUSTICE PROJECT | PAPER 4

AI at Trial and on Appeal

April 2025



LAW COMMISSION OF ONTARIO
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About The Law Commission of Ontario

The Law Commission of Ontario (LCO) is Ontario's leading law reform agency.

The LCO provides independent, balanced, and authoritative advice on complex and important legal policy issues. Through this work, the LCO promotes access to justice, evidence-based legislation and policies, and public engagement on important law reform issues. The LCO is independent of stakeholder interests and is committed to a public interest perspective for every project.

Recent LCO reports and submissions addressing AI issues include:

- [Human Rights AI Impact Assessment](#) (with the Ontario Human Rights Commission, 2024)
- [Submission to Government of Ontario Re Bill 194](#) (2024)
- [Accountable AI](#) (2022)
- [Regulating AI: Critical Issues and Choices](#) (2021)
- [Legal Issues and Government AI Development](#) (2021)
- [The Rise and Fall of Algorithms in the American Justice System: Lessons for Canada](#) (2020)

More information about the LCO and this project is available at: <https://www.lco-cdo.org>.

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The LCO AI In Criminal Justice Project Paper Series

- Paper 1 Introduction and Summary: LCO AI in Criminal Justice Project
Nye Thomas, Executive Director, LCO
Ryan Fritsch, Counsel, LCO
- Paper 2 Use of AI by Law Enforcement
Ryan Fritsch, Counsel, LCO
- Paper 3 AI and the Assessment of Risk in Bail, Sentencing, and Recidivism
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- Paper 4 AI at Trial and on Appeal
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- Paper 5 AI and Systemic Oversight Mechanisms in Criminal Justice.
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Annex A Executive Summary and Consultation Questions

Annex B Project Case Studies

Project materials are available online:
<https://www.lco-cdo.org/CrimAI>.

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Disclaimer

The analysis, findings, and recommendations in this paper do not necessarily represent the views of the LCO's funders, supporters, Advisory Committee members, or Issue Paper authors.

The analysis, findings, and recommendations in the project Issue Papers do not necessarily represent the views of the LCO, its funders, supporters, or Advisory Committee members.

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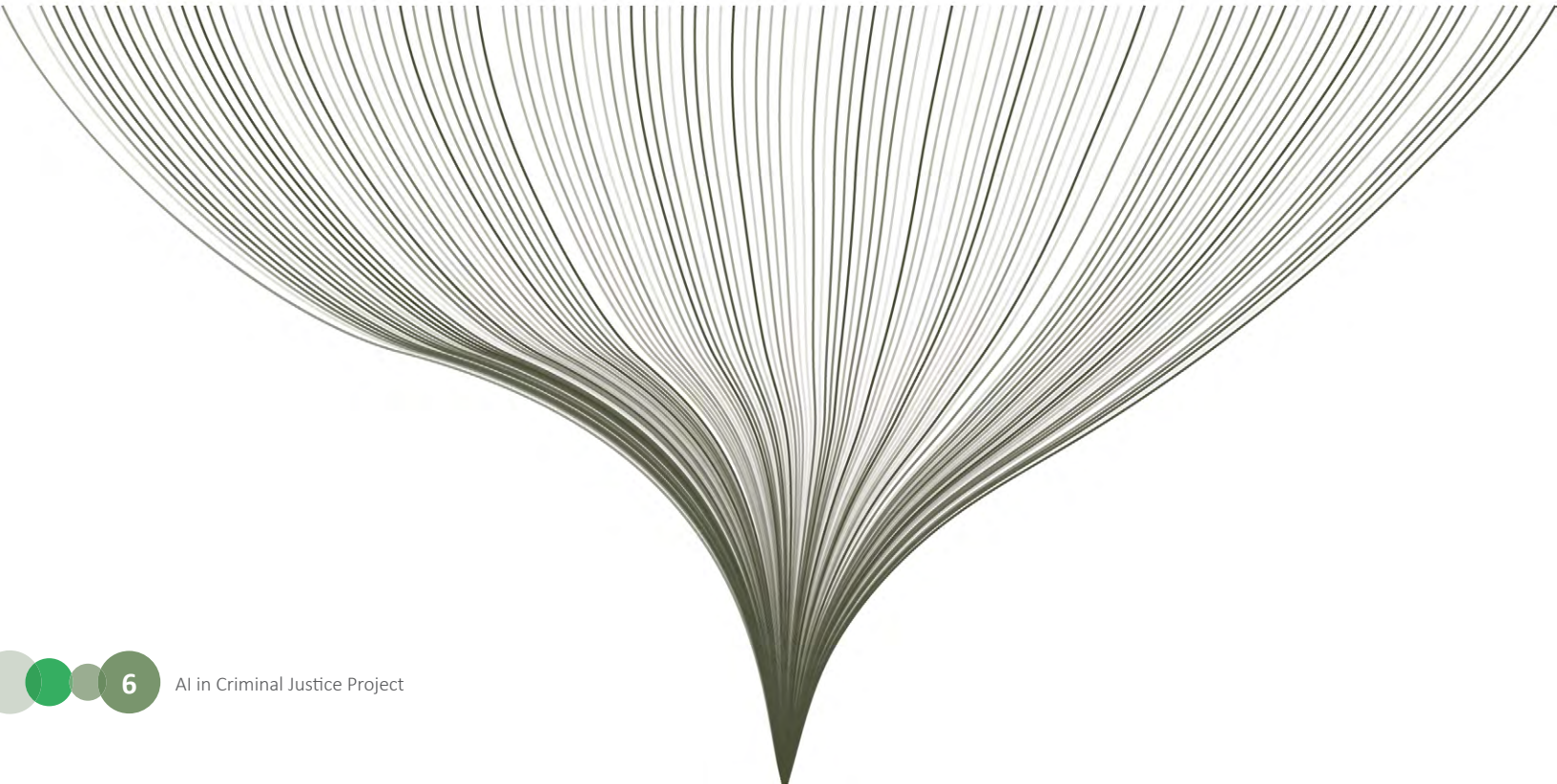


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1. Introduction

1.1 The LCO AI in Criminal Justice Project

The Law Commission of Ontario’s (LCO) [AI in Criminal Justice Project](#) is a groundbreaking survey and analysis of the opportunities, risks, and law reform issues regarding artificial intelligence (AI) in the Canadian criminal justice system.

Many AI technologies have potential to improve public safety, improve police investigations, and improve the efficiency and fairness of criminal proceedings. Many AI technologies also appear to have potential to address, at least in part, long-standing concerns about racialized criminal justice and access to justice.

At the same time, the use of AI in criminal justice is controversial. Technologies such as predictive policing, facial recognition and biometric surveillance, and bail/sentencing algorithms have been criticized in many jurisdictions for their impact on racialized and low-income communities, constitutional rights, human rights, criminal procedure, criminal common law principles, privacy, and access to justice.

The LCO AI in Criminal Justice Project is a unique collaboration of leading practitioners and experts from across the Canadian criminal justice system. Project

authors and advisors include representatives from governments, police services, Crowns, the criminal defence bar, courts administration, legal aid, human rights commissions, civil society organizations, and academics.

Working together, the LCO and our collaborators believe this project is an important contribution towards developing “Trustworthy Criminal AI” in the Canadian justice system. Our collective goal is to help inform institutions, policymakers and stakeholders about the law reform issues, choices, opportunities, and challenges in this complex and fast-moving area.

This paper is the fourth of a series of five Issue Papers that comprise the project. Each Issue Paper is an expert collaboration considering the use of AI in a distinct phase of the criminal justice process, including:

- Paper 1 Introduction and Summary: LCO AI in Criminal Justice Project
- Paper 2 Use of AI by Law Enforcement
- Paper 3 AI and the Assessment of Risk in Bail, Sentencing, and Recidivism
- Paper 4 AI at Trial and on Appeal
- Paper 5 AI and Systemic Oversight Mechanisms in Criminal Justice.

Many of the topics addressed in this Introduction and the Issue Papers have been addressed individually in international and Canadian analyses. Unlike earlier reports, however, the LCO project addresses systemic issues that transcend discussions about specific technologies or proceedings. In other words, the LCO project assesses the collective or cumulative impact of AI on criminal justice in Canada. The LCO project is the first independent and collaborative initiative in Canada to address these important and timely issues.

The LCO believes this project is urgent. AI in the criminal justice system affects some of the most important issues and rights in Canadian society, including public safety, personal liberty, rights to equality and procedural fairness, and public trust in key public institutions, including courts and the police. At the same time, fast-paced technological, legislative, and policy developments in Canada and internationally have put pressure on Canadian police services, governments, courts, and stakeholders to respond to criminal AI issues quickly.

To their credit, some Canadian police services and other agencies have taken important initiatives to address AI risks. As will be seen, however, there are still wide and consequential gaps in the legislative or legal framework governing these systems. Indeed, Canadian lawmakers are far behind their international counterparts where the first “wave” of criminal justice AI governance has already been supplanted by more sophisticated laws and policies.

The LCO AI in Criminal Justice Project is organized around four key themes or topics.

First, the project considers several important practical and legal questions that will soon confront Canadian police, courts, policymakers, Crowns, defence counsel, and criminal accused, including:

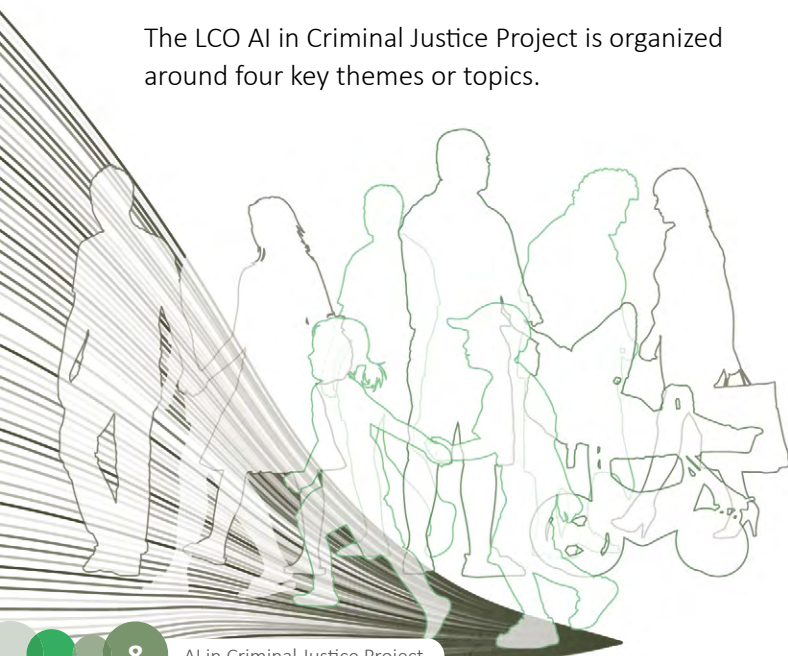
- What AI tools are or may be used at each important stage of Canadian criminal justice?
- What legal issues are likely to arise at each stage?
- What is the state of Canadian law and procedures to address these issues, particularly in relation to the Canadian Charter of Rights and Freedoms, the Criminal Code of Canada, procedural fairness, evidence law, and criminal common law?
- What issues cut across specific proceedings or stages and suggest the need for a systemic response or framework?

Second, the LCO project asks *who* is likely to be affected by AI in the criminal justice system. What institutions, agencies, organizations, or individuals will be affected in some way? And what does the breadth or complexity of those actors suggest about criminal justice AI regulation and governance?

Third, the LCO project surveys potential solutions at the specific and systemic level. In so doing, the project highlights the speed, variety, sophistication, and breadth of AI regulation in recent years. This Introduction and the Issue Papers discuss potential policy, procedural, or law reform responses to the issues arising at each respective stage, including:

- What can we learn from the experience of other jurisdictions that have confronted these issues?
- How have Canadian policymakers, courts, and others responded to the emerging challenges?
- Are there gaps in Canada’s current criminal AI regulatory landscape?

Finally, the project tries to foreshadow or predict what is likely to happen in Canadian criminal justice if action is not taken. In other words, what is likely to happen if we fail to address these issues? What can we learn from the experience in other jurisdictions?



The LCO’s series of Issue Papers are designed to facilitate discussion and consultation. We have learned that “trustworthy criminal AI” depends on complex legal, technical and operational considerations. We have also learned that broad collaborations and consultations are crucial. Accordingly, each Issue Paper includes questions for Canadian criminal AI policymakers and stakeholders. In this manner, the LCO hopes the papers will become a catalyst for a wider Canadian discussion about these issues.

Publication of the Issue Papers commences a period of stakeholder consultations to be conducted by the LCO. The LCO will analyze and summarize the feedback we receive. A Final Report will recommend a series of law, policy and programmatic reforms.

More information about this project is available on the LCO project website: <https://www.lco-cdo.org/CrimAI>.

1.2 Executive Summary: AI in Criminal Trials and Appeals

This is the fourth in the series of Consultation Papers. This paper considers the impact of AI on criminal trials and appeals.

At present, there are no specific Canadian legal standards governing the use of AI in a criminal proceeding. Noting the absence of AI regulation, federal and provincial courts across Canada are imposing limited AI policies of their own, such as obliging parties to disclose the use of AI in preparation of a case and verifying the trustworthiness and accuracy of the AI’s output. (An overview of Canadian AI legislation is found in LCO Project Paper 1, **Introduction and Summary**. An overview of Canadian court directives is below in s. 2.1.4, “The Courts of Justice Act, Court AI Directives, and Law Society Practice Directions”).

Criminal courts are otherwise left to scrutinize AI (as any other technology) through the set of long-established and highly litigated legal instruments. This includes:

- The *Charter of Rights and Freedoms*;
- Principles of procedural fairness;
- Common law cases and precedent;
- Related legislative instruments including the *Canada Evidence Act*, *Canadian Criminal Code*, and *Ontario’s Courts of Justice Act*, among others; and
- A range of regulatory and policy instruments such as court rules, legal professional standards, technical standards, Crown prosecution policies, and so forth.¹

Courts are also mindful of the general rule regarding use of novel technology. This rule, in theory, applies equally to the use of AI (assuming courts are aware AI is being used). The general rule is that before evidence based upon a novel technology may be admitted at trial, the trial judge must be satisfied (through a *voir dire* “trial within a trial”) that the technology that underpins any evidence is reliable and can be fairly challenged by the other party. The proponent

Background and Definitions.

Readers are encouraged to first review LCO’s *Introduction and Summary: LCO AI in Criminal Justice Project*. This paper establishes a definition for “artificial intelligence” used throughout this project. In addition, the paper provides an overview of various AI technologies in criminal justice and gives a primer on the basic legal and policy frameworks governing AI in Canada and elsewhere.

AI in Criminal Justice Case Studies.

See Annex B, *Project Case Studies* for a discussion contrasting the legislative, regulatory and implementation framework for intoxicizers in comparison to some of the challenges AI presents; how body cam evidence is challenged in court and how AI may complicate this process; and a review of how AI could impact the investigation of an alleged domestic violence incident.

of the novel technology bears the burden of proving its reliability.² This general rule has been applied to many recent technologies, including, for example, automated voice comparison techniques or tracing cryptocurrency transactions.³

Collectively, this array of legal instruments establishes a framework that (when robustly applied) fulfills the objective of any criminal proceeding: to fairly resolve criminal disputes and fairly punish criminal wrongdoing within the shadow of a fair review process. Canadian jurisprudence frequently emphasizes how a criminal trial is a search for the truth:

The ultimate aim of any trial, criminal or civil, must be to seek and to ascertain the truth. In a criminal trial the search for truth is undertaken to determine whether the accused before the court is, beyond a reasonable doubt, guilty of the crime with which he is charged.⁴

The criminal trial – along with any subsequent appeal process, if triggered – is the epicentre of the justice system. Criminal trials are where justice is practiced and dispensed; where the parties and stakeholders converge in full public view to apply, test and interpret criminal law; where constitutional validity is assessed; and where statutory provisions are either affirmed, declared partially invalid, or struck down and declared to be of no force and effect.⁵

In this regard, there is no doubt that the criminal court litigation process can hold AI technology to high Canadian legal standards. Leading criminal litigators have written that “one of the benefits of litigation is that it can expose the flaws and legal uncertainties of new technologies.”⁶ They note how criminal and civil litigation involving AI and algorithmic tools expose “systemic flaws including inaccuracy, unreliability, unintended biases, opacity, lack of explainability, data illiteracy, automation bias.”⁷

At the same time, and left to their own devices, it is inarguable that courts will shoulder a very high burden if construed as the *de facto* AI regulator in criminal justice. The reasons for this are evident. Cases may take years to resolve conclusively and will significantly lag technological developments. Precedential cases may be narrowed to specific technologies, points of law, unusual facts or distinct technological use cases. And courts are not always seized of jurisdiction over different justice and justice-involved institutions, such as health care, community supports and services, children’s aid, family law, and immigration law (to name just a few). This makes it particularly difficult for courts to navigate issues related to resource constraints, policy and program design, and other issues external to courts but often integral to the conduct of criminal prosecutions, trials and appeals.

Furthermore, the *Charter*, principles of procedural fairness, evidence law, common law and other existing legislation are not designed as a framework to maximize AI’s potential benefits while simultaneously mitigating its potential harm.

Ultimately, litigators have concluded:

The common theme that emerges from all litigation is that AI and algorithmic tools were introduced prior to serious discussions about proper guardrails governing their use. Regulation by litigation is not a sufficient answer to the challenges and risks posed by these systems. Proactive regulation is required.⁸

Accordingly, this paper takes a deeper look at the potential use and regulation of AI in criminal litigation. There are many points where AI use is poised to expand ahead of regulatory reforms that may frame its use in criminal trials. The important legal, policy and practical considerations facing lawmakers, policy makers, and justice stakeholders will be reviewed, and recommendations will be offered to better harness the advantages of AI while constraining a range of foreseeable weaknesses and negative impacts.

Not all uses of AI will raise equal concerns. But it is certain that some (or many) uses will have some risk, if not high degrees of risk. These uses will squarely confront fundamental principles of criminal law and procedure and raise key questions, including:

- How are *Charter*, procedural fairness, and common law rights affected by AI-enabled technologies and what do the *Charter*, procedural fairness, and the common law say about them?
- What statutory, regulatory, evidentiary, or other changes are necessary to ensure that any use of AI-enabled technologies complies with the law and serve to protect access to justice?

More specifically, criminal proceedings are certain to engage a range of foreseeable challenges with AI, including:

- The evidence produced by AI-enabled systems, such as automated surveillance, facial recognition, forensic systems, predictive policing, the threat of “deep fake” images, video and audio evidence, and so forth.
- The ways in which AI technology raises different legal issues depending on its use and context, for instance: privacy concerns (when using facial recognition video surveillance); bias and profiling concerns (when applying predictive policing algorithms); or concerns for reliable verdicts (where they may rely on deep fake images or audio).
- AI-enabled tools that facilitate, augment or direct investigations by law enforcement.
- AI-enabled tools used by experts to analyze evidence, make predictions, and produce opinions.
- Timing and standards for the disclosure, transparency, admissibility, and reliability of AI-enabled technology.
- AI-enabled tools used by officers of the court, including prosecutors, defense counsel, and the judge. Such tools may be used to conduct legal research, prepare wiretap or warrant applications, prepare written and oral submissions, analyze and select among potential arguments and litigation strategies, suggest patterns and preferences in a judge’s reasoning and decision making, etc.⁹
- The expertise and resources needed to responsibly prosecute and effectively mount a full and fair defense where AI-enabled technologies are involved, including the accessibility and capability of publicly versus privately available AI technologies.
- AI analysis of a witness’s trauma, credibility, and historical disadvantage, including the potential use of interview assessment tools (eye gaze, mood, comportment, word choice, fidget response, etc.) or the use of AI to transcribe, translate, or otherwise help compose victim impact or witness statements.
- Challenges to the redactions and relevancy assessments by made by AI tools used to support vetting of disclosure materials.
- Use of artificial intelligence to predict the likelihood of success in litigation premised on assessment of data regarding the presiding justice and opposing counsel.¹⁰
- AI-enabled technologies used in jury selection (identification and assessment of potential juror bias); to aid jury-specific advocacy (i.e., constructing impactful submissions and visual aids); to assist in interpreting the meaning and generating responses to jury questions during deliberation; to predict likelihood of a unanimous verdict / determine when jury is hung.¹¹
- AI-enabled tools used to assign resources throughout the criminal justice system, assess eligibility for legal aid, predict required trial time, perform court, and trial scheduling, assign judges and court staff.¹²

Given the foregoing, this paper has two broad aims.

First, to overview the imminent and foreseeable impact of AI on criminal trials and appeals specifically grounded in Canadian criminal law and the role of Ontario-based justice institutions in this process.

Second, to look beyond the limited ability of courts to regulate AI and identify where justice and justice-involved institutions may anticipate the challenges of AI through law reform, policy making, institutional alignment, and program design.

Other jurisdictions have made efforts to undertake just such an analysis. For instance, the United States established the President's Council of Advisors on Science and Technology (PCAST). PCAST is a cross-disciplinary panel of leading experts in various fields related to science, technology, law, and policy. In the past, it has produced some astute and eminently reliable assessments of novel technology and its use in the justice system, such as their 2016 report entitled *Forensic Science in the Criminal Courts: Ensuring Scientific Validity of Feature-Comparison Methods*.¹³ A similar institution, properly composed in Canada, would be well-placed to reliably explain how various AI mechanisms work and the pros and cons of employing them in the justice system.

Overall, this paper identifies several issues and opportunities with AI in criminal trials and appeals. The discussion proceeds as follows.

Section 2 reviews how new technologies, including AI, are held to the high standards of the law and common law principles that define fair trials. For instance, given the mix of rights under the Charter of Rights, procedural fairness, evidence law, rules of the court and other instruments:

- How will an accused receive notice that AI has been used (such as during an investigation by law enforcement) or is being used (such as to mount the case against them, or aid in determining issues like bail or sentencing)? Does AI require notice in every circumstance, or is there a threshold, or a distinction between its use in a process as opposed to a decision?
- How will an accused (or the Crown) receive disclosure of evidence generated, augmented or analyzed by AI? What is required to be disclosed to ensure reliability and validity: source code, training data, technical assessment or audit reports, efficacy studies, or other?
- How will AI-generated evidence and data comport with the rules of evidence? For instance, what AI outputs may be expert or opinion evidence? What may be admissible for fact or weight? What AI outputs or training data constitutes hearsay?
- Who may be called as an expert qualified to testify, explain and justify AI recommendations, decisions, or evidentiary analysis?
- What access to justice provisions will ensure accused are afforded the right to a full and fair defense against AI systems? AI-related rights issues are certain to be litigated but what resources are required, where will they come from, and in what circumstances and to what extent should they be available?

Section 3 takes seriously the challenge identified at the outset of the LCO AI in Criminal Justice Project (and as evidenced in section two of this paper) that a comprehensive review for potential law reform is required given how Canadian legal standards and rules governing AI are either yet to be developed and implemented or have foreseeable deficiencies in addressing the systemic legal issues engaged by AI. Section 3 of this paper illustrates the many reasons why this is the case in relation to assessing the reliability of AI evidence, and in relation to challenges to procedural fairness that AI is likely to introduce. This includes discussion of the following:

- **Assessing the Reliability of AI Evidence:** There are significant gaps in existing procedural fairness and evidentiary rules that will struggle to contend with known complications of AI. This includes: the apprehension of bias, assumptions and scientific validity; how AI may impact the truth-seeking function of criminal trials without adequate guardrails; inherent unreliability of AI evidence; and limitations on use of AI evidence.
- **Procedural Fairness:** There are significant gaps in existing procedural fairness that will likely create barriers when contending with AI systems. This includes the: proper characterization of AI evidence; hearing type; disclosure; accessibility issues impacting procedural fairness; technical complexity and explainability; resource constraints and other disadvantages; and appeal rights, particularly related to timing of appeals, the right of the accused to be present at trial, and the preservation of evidence and fresh evidence on appeal, among other issues.

1.3 Consultations, Contacts and Project Support

Consultations

The LCO believes that successful law reform depends on broad and accessible consultations with individuals, communities, and organizations across Ontario. There are many ways to get involved. Ontarians can:

- Learn about the project and sign up for project updates on our project website.
- Contact us to ask about the project.
- Provide written submissions or comments on any of our reports.

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2. AI in Criminal Trials and on Appeal

This section explores the first key questions in this paper, namely:

- What are the range of legal and other instruments in criminal law that are certain or likely to engage and test AI-enabled technology?
- How might these instruments interpret AI-enabled technology through the lens of existing law, precedent, practices and principles?
- What does this analysis tell us about the likely impacts of AI on criminal trials and appeals, and what does it suggest are areas that may need bolstering if criminal justice is to continue upholding high Canadian legal standards for rights and procedural fairness?

Before moving on, however, it is necessary to establish a baseline understanding of what a criminal trial is and what it is for. This will make it easier to analyze and weigh the impact of the introduction of AI into criminal litigation.

The criminal trial process is designed to fairly resolve criminal disputes and fairly punish criminal wrongdoing, within the shadow of a fair review process. In a criminal trial, the state is required to prove criminal allegations beyond a reasonable doubt. In a criminal appeal the result is reviewed to ensure errors in the process did not render the result a miscarriage of justice.

Key to this process is ensuring no finding of guilt or punishment occurs except when premised on reliable evidence, and a fair process, proving guilt beyond a reasonable doubt. Necessarily then, the criminal trial process fails when it allows for convictions on unreliable evidence, and/or pursuant to an unfair process.

The introduction of AI raises concerns on both fronts. While AI brings the alluring promises of procedural efficiency, it also carries a risk of introducing unreliable evidence and procedural unfairness. The question is: are existing checks and balances capable of gaining the benefits while managing the risks? Each of these are reviewed immediately below.

2.1 How does complex or controversial technology generally figure in criminal trials and appeals?

Criminal trials and appeals have always had to adapt to novel and complex technologies. Many of these technologies are controversial or used in controversial ways, including wiretaps, cell tower data dumps, mobile phone tracking and triangulation, aerial surveillance, body worn cameras, tasers, decryption, automated fingerprint readers, automated license plate readers, probabilistic genotyping, and so forth.

See Paper 2 in this series, Use of AI by Law Enforcement for an introduction to a range of AI tools used in law enforcement investigations in Canada and elsewhere.

The concerns raised by use of new investigative technology by law enforcement inevitably come before the criminal courts to adjudicate. This system is constituted by several pieces of legislation, fundamental principles of law, and policy instruments including the following.

2.1.1 Procedural Fairness in Common Law

Procedural fairness articulates concerns for fundamental fairness in legal and administrative decision making. It includes principles like:

- Notice
- Hearings
- Disclosure of all evidence and the right to challenge it
- Reasons for decisions
- Appeals and remedies at an individual and systemic level.

Procedural fairness is generally understood as a sliding-scale of rights. The greater the impact a decision has on a person, the greater the procedural fairness rights they must enjoy ensuring the decision is justified. Given the risk to fundamental civil liberties, criminal law asserts among the highest standards of procedural fairness in Canadian law.

Historically, procedural fairness was ensured through protections built into the common law. However, since the advent of the *Canadian Charter of Rights and Freedoms*, many of these protections have been reinforced, if not subsumed, by the rights and freedoms guaranteed by the *Charter*. In some cases, procedural fairness finds dual protection both in the common law and the *Charter*. One such example are the protections afforded under the section 7 protected right to silence, and the common law “confessions rule.” Both provide overlapping and distinct protection of an accused’s right against self-incrimination – a foundational principle of fairness animating the criminal law.¹⁴

Whether procedural fairness is protected via the *Charter* or traditional common law, AI raises many concerns regarding how the criminal justice process will continue to uphold this high standard. For instance:

- How will an accused receive notice that AI has been used (such as during an investigation by law enforcement) or is being used (such as to mount the case against them, or aid in determining issue like bail or sentencing)? Does AI require notice in every circumstance, or is there a threshold, or a distinction between its use in a process as opposed to a decision?
- How will an accused (or the Crown) receive disclosure of evidence generated, augmented or analyzed by AI? What is required to be disclosed to ensure reliability and validity: source code, training data, technical assessment or audit reports, efficacy studies, or other?

- How will AI-generated evidence and data comport with the rules of evidence? For instance, what AI outputs may be expert or opinion evidence? What may be admissible for fact or weight? What AI outputs or training data constitutes hearsay?
- Who may be called as an expert qualified to testify, explain and justify AI recommendations, decisions, or evidentiary analysis?
- What access to justice provisions will ensure accused are afforded the right to a full and fair defense against AI systems? AI-related rights issues are certain to be litigated but what resources are required, where will they come from, and in what circumstances and to what extent should they be available?

Several of these immanent concerns find precedent in case law.

Writing for the majority, Justice LaForest in *R. v. Lyons* noted: “It is clear that, at a minimum, the requirements of fundamental justice embrace the requirements of procedural fairness.”¹⁵ The Supreme Court of Canada has also held that:

- State conduct which infringes s. 7 of the *Charter* requires that judges go beyond a review of procedural fairness to also consider substantive fairness.¹⁶
- Procedural **un**fairness is an independent basis for review of decisions affecting an individual’s rights and interests.¹⁷

The following issues, all of which implicate decision making, have been considered as invoking procedural fairness:

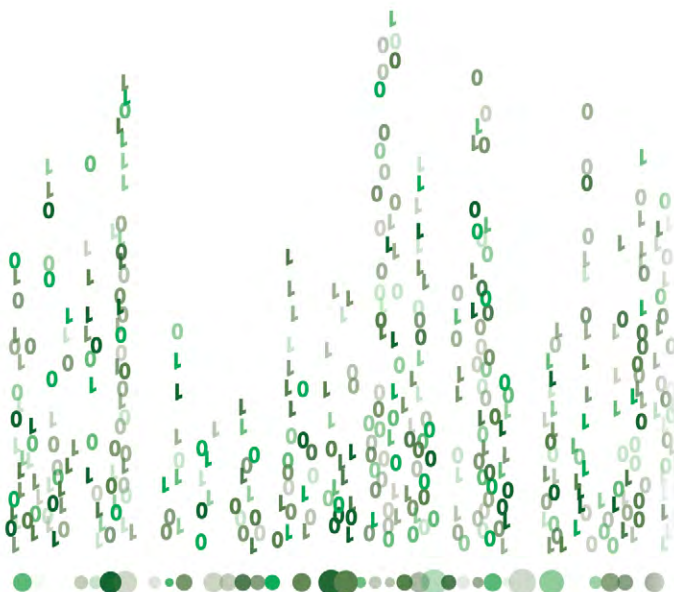
- Adequate notice of the case to be met,¹⁸ including entitlement of an accused to some disclosure of the basis upon which the Crown requested a jury trial (where extensive pre-trial publicity and other evidentiary issues involving risk of prejudice to accused if tried before a jury);¹⁹
- The right to conduct one’s own defence, including empowerment of an accused to control some key strategic decisions during the litigation process;²⁰
- The prohibition against the Crown raising new theories of liability for the first time upon appeal;²¹
- The ability to instruct counsel, the right to make submissions (including oral as opposed to written), and the right to be heard;²²
- Judicial duty to give reasons when circumstances require it.²³

2.1.2 The Charter of Rights and Freedoms

The deployment of AI in the context of the criminal trial will also be subject to the constitutional limits imposed by the *Charter of Rights and Freedoms*.

All state action, including criminal litigation, is subject to the limitations imposed by Canada’s *Charter*. The Supreme Court of Canada describes the “primary purpose” of the *Charter* is “to constrain government action in conformity with certain individual rights and freedoms, the preservation of which are essential to the continuation of a democratic, functioning society in which the basic dignity of all is recognized.”²⁴ The *Charter*’s protections are not absolute. However, they are “subject only to such reasonable limits prescribed by law as can be demonstrably justified in a free and democratic society.”²⁵

In some provisions, the *Charter* bestows a positive right upon accused persons. Examples of positive rights include the s.7 right to life, liberty, and security of the person (which encapsulates the right to silence and to make full answer and defence), the right to counsel s. 10(b), and to trial in a reasonable time s.11(b).



Other sections of the *Charter* confer negative rights to be free from interference. This includes protections to be secure against unreasonable search and seizure (s.8), arbitrary detention (s.9), or cruel and unusual punishment (s.12).

Charter jurisprudence also delineates permissible state action. It defines activities like:

- Reasonable search;²⁶
- Circumstances amounting to a detention;²⁷ and
- The extent of individual freedom, namely balancing the rights of an accused against the state's interest in investigation and enforcement of the criminal law (for example, the interests of law enforcement served by searches incidental to arrest versus the significant privacy interests at stake in cell phone searches).²⁸

The *Charter* also balances the rights of other parties against those of the accused (i.e., complainants' and witnesses' right to privacy against the accused's right to a fair trial and to make full answer defence).²⁹

The *Charter* operates such that its own impact is also weighed and balanced between circumstances in which state conduct or the interference with the accused's rights necessitates a stay of proceedings, and circumstances in which the infringement is adequately addressed by the exclusion of the impugned evidence (ss 24(1 and 2)).

Finally, the *Charter* evaluates the constitutional validity of other laws enacted and applied in the criminal law context and determines whether limits prescribed by law on individual rights are reasonable and demonstrably justified in a free and democratic society (s.1). The onus is on a government actor seeking to uphold a limitation on a constitutional right to prove that the limitation is justified.

The onus will only be met by demonstrating on a "preponderance of probability" that the limitation is justified.³⁰ The *Oakes* case outlines how this is assessed in a four-part test.³¹ As AI impacts various rights in different ways, the *Oakes* test may very well drive analysis of the validity and permissible uses of an AI system particularly as the law expands to enact legislation that serves to enable and/or limit government actors' utilization of artificial intelligence technology. According to *Oakes*, for any such law authorizing the use of AI to survive:

1. The impugned law must address a "pressing and substantial" objective. The objective must be sufficiently important to warrant overriding a constitutionally protected right or freedom.³²
2. The impugned law or policy must be "rationally connected" to the pressing and substantial objective.³³
3. There must be minimal impairment in that the means employed to limit the right must be reasonable and demonstrably justified. The law must impair the *Charter* right as little as possible or be "within a range of reasonably supportable alternatives."³⁴
4. There must be proportionality established between the effects of the limiting measure and the objective. "The more severe the deleterious effects of a limiting measure, the more important the objective must be."³⁵

A paper written by the David Asper Centre for Constitutional Rights considers how facial recognition technology (FRT) might be assessed against the *Oakes* criteria.³⁶

In Asper's analysis, courts are likely to find law enforcement use of facial recognition could meet the *Oakes* criteria: that it serves a pressing and substantial objective; furthers effective and efficient policing; and that the use of FRT is rationally connected to those objectives.

However, the analysis questions whether FRT would pass the minimal impairment test given its reliance on covert collection of biometric information, the increased risks incumbent with the immutable and personal nature of biometric data, and the availability of other investigative techniques that could be used in the alternative. Notably, other investigative techniques do not need to be as effective as FRT, only that they “sufficiently achieve the intended goal.”³⁷ In this analysis, it remains uncertain whether the perceived benefits of FRT use by law enforcement would be found to outweigh its deleterious effects. It would also consider the disproportionate impact of technological inaccuracies upon minorities and FRT’s potential for built-in bias. At the same time, the analysis suggests that where technological flaws with FRT are found to be the result of novel or inaccurate training practices, courts may not find it more discriminatory than existing methods of identification. Finally, the paper opines that given the comparative speed at which FRT can identify suspects, that its use to “better identify perpetrators of crimes” potentially benefits “racialized people [who] are overrepresented as victims of crime,” the inference being that this would support a finding of proportionality.³⁸

Predictive policing tools offer another example that shows how the *Oakes* test might be framed and applied differently in another context. It has been argued that bias and discrimination are built into predictive policing AI models by relying on historical crime data for training, and further, that this threatens to perpetuate discriminatory policing practices and erode public trust in law enforcement.³⁹ The analysis of the Asper Centre recognizes the potential for bias in FRT, framing several questions around the potential for the technology’s ability to “identify suspects” who then presumably may be singled out for further investigation.⁴⁰

At the same time, they suggest that the presence of a “human in the loop” urges different conclusions regarding FRT than those which are likely to be drawn when predictive policing’s impact is characterized as detrimental to entire communities. In the predictive policing context consider:

- Whether a tool which may be biased and discriminatory from its inception and in its application, could ever be found to be rationally connected to “efficacy” in policing (and how such biased and discriminatory design might be investigated and tested in court).
- How such a tool, applied to communities who have suffered historically from bias and discrimination in policing practices, can be found to “minimally impair” the rights in question.
- Whether the criticism that biased and discriminatory policing practices erode public trust in law enforcement can be cited as relevant to establishing the lack of a rational connection, considered elsewhere in the *Oakes* analysis, or considered at all?
- Will the analysis change when the detrimental impact of the law related to the technology is assessed to affect an entire community versus some of its individual members (those identified as suspects through FRT)?
- If the datasets that the tools are trained upon are biased, such that their accuracy is compromised, is there any meaningful distinction to be drawn when assessing the harm done by suggesting that the deleterious effects do not impact the community, but rather some of its individual members?

Some indications regarding how an *Oakes* analysis might interpret laws defining permissible utilization of AI is found in several cases in the following contexts.

- **Police investigations, tools and investigative techniques:** AI tools are often criticized for being used invisibly unless there are specific requirements for disclosure, transparency, and accountability. For instance, *R. v. Mentuck* found that protecting police investigative techniques and operational methods at issue was not justified but that a one-year ban on publication of the undercover officer’s identity was justified.⁴¹
- **Risk assessment and profiling:** The use of AI tools for risk assessment is often criticized for reproducing historically biased and discriminatory data sets, while also being ignorant of individual circumstances and social, political, and economic considerations that inform risk assessment. The case of *R. v. Ndhlovu*, determined that a sex offender registry was overbroad where any past history would result in mandatory registration. The case suggests that AI risk assessment will be subject to limitations where it is unable to show that the assessed risk is more than speculative and not connected to the prevention of offences.⁴²
- **Risk assessments must take individual circumstances into account:** AI risk assessment tools are often criticized for not taking individual human circumstances into account, and for failing to adequately consider social context. Moreover, judges make risk assessments routinely, including those informed by expert assessments.⁴³
- **Administrative inconvenience and enforcement do not override civil liberties:** A key benefit of AI-enabled systems is expediency. But the expediency that AI affords is often criticized as negatively impacting constitutional rights, including civil liberties. Several cases – including *R. v. Ndhlovu*,⁴⁴ *Canada (Attorney General) v. Bedford*,⁴⁵ *Carter v. Canada (Attorney General)*,⁴⁶ and *R. v. Safarzadeh-Markhali*⁴⁷– all affirm that Parliament cannot rely on administrative convenience enforcement practicalities to immunize a law from overbreadth under s. 7 of the *Charter*.

2.1.3 The Canada Evidence Act

The *Canada Evidence Act (CEA)*⁴⁸ codifies rules of evidence in court proceedings conducted under federal statutes such as the *Criminal Code* and the *Controlled Drugs and Substances Act*,⁴⁹ pursuant to which most criminal litigation is conducted. Artificial intelligence seems poised to befuddle the existing provisions of the CEA in numerous ways. The CEA governs both aspects of witness testimony and the admissibility of “documentary” evidence.

With respect to witnesses, the CEA defines:

- Testimonial competence, including compellability and capacity (ss. 4(1) and 4(2));
- Protective measures designed to facilitate the participation of vulnerable witnesses in the trial process (s. 16 – 16.1);
- Procedures to be followed when impeaching an adverse or recanting witness (ss. 9(1) and 9(2)); and
- Describes the process for impeaching a witness on prior statements (s. 10 and 11) or convictions (s.12).

Regarding documents, the CEA governs:

- The admissibility of bank (s.29) and business records (s.30);
- The admissibility of electronic documents (ss.31.1 – 31.8); and
- Several sections allow copies of documents (or documents describing an original) to be admitted pursuant to statute.⁵⁰

The *Act* also suppresses the disclosure of information in the interests of protecting the national and public interest. Section 37 protects against disclosure of information protected by a specified public interest and articulates the procedural and substantive rules which govern the court’s review of objections to disclosure that would violate the privilege. Section 37 may also be invoked to uphold informer privilege.

National interests are further considered under s. 38, which protects against disclosure of information that, if it were disclosed to the public, could injure international relations, national defence or national security. When invoked, s. 38(2) requires that the potentially injurious information is not disclosed other than in accordance with the provisions of the CEA.

It is therefore conceivable that disclosing the use of AI by hostile nations and actors to attack key infrastructure could trigger even further widespread attacks, and thus limit disclosure of such information.

Other examples where disclosure of AI use may be questionably suppressed under the existing CEA might be where:

- AI systems sift through vast datasets, a practice which arguably triggers the interests of protecting national security, identifying cybersecurity threats, terrorist activities and hostile actors.⁵¹
- Information security becomes significantly more challenging in the age of AI when the technology potentially enables hostile states, criminal organizations, and individuals to hack into networks, communication and information systems, and/or access open source information to obtain data that may reveal privileged investigative techniques, confidential sources, and information that, if disclosed, would be injurious to national security and other interests the various forms of privilege seek to protect.
- Data that might trigger international relations, defence, and national security concerns may be collected, used and / or made available beyond its original intended purpose. This may occur without the express knowledge and consent of the governments to which the data belongs.

AI poses further challenges with respect to records and documents. Bank and business records are admissible because they are produced in the ordinary course of business and are thus presumed to meet the standard of trustworthiness necessary to bring them within a recognized exception to the hearsay rule. Similarly, electronic records must be trustworthy in the sense that they “can be proven or presumed to be reliable, accurate, and authentic” and thus they are

also admissible under the provisions of the CEA cited above.⁵² The challenge with AI is that it has known limitations that undermine its *presumed* reliability, such as the tendency to confabulate or hallucinate outputs. Furthermore, AI systems have difficulty *proving* their reliability given how predictive large language models (for instance) are generally incapable of explaining their reasoning process.⁵³ The basic concept that records and electronic documents are presumed reliable or can be proven reliable because they’re made in the routine course of business may be undermined where those processes incorporate AI systems.

Many other similar gaps are foreseeable. For instance:

- How will the CEA and other similar statutes (like Ontario’s *Evidence Act*)⁵⁴ craft standards regarding the reliability, accuracy and trustworthiness of records and documents generated by “black box” algorithms and keep pace as the technology advances?⁵⁵
- How will the CEA confront and constrain the ease with which AI can be used to alter legitimate records or otherwise produce counterfeit and falsified records and documents?
- How must notice provisions be modified in anticipation of the volume and complexity of records that may be tendered and filed?
- Will AI tools be required by counsel, courts administration and triers of fact to review and manage the evidence? If so, how will the interests of self-represented accused and other parties to the litigation be protected in scenarios where the evidence is beyond the capabilities of a human being to review, process, and comprehend? Are well established procedures for adducing voluminous information at trial in a way that will be intelligible to the trier of fact going to adequately address AI?⁵⁶
- If existing CEA records and electronic documents provisions are deemed inadequate relative to artificial intelligence, can the criminal justice system reasonably accommodate alternate methods of verification, i.e., requirements for viva voce evidence, including from experts.

Clearly, AI seems likely to test the existing law of evidence and its ability to preserve the criminal trial's truth-seeking function. Some academics suggest (in both the civil and criminal context) that the rules of evidence, which are largely rooted and developed in the common law, appear sufficiently flexible to adapt to new technologies, including artificial intelligence, and absent law reform.⁵⁷ They suggest that legal practitioners and jurists must enhance their understanding of AI (with the assistance of expert evidence, when required) to be able to evaluate the validity and reliability of AI generated evidence. They note that all evidence, which is otherwise admissible, will be excluded if its probative value is outweighed by its prejudicial effect. They highlight that many objections relative to the reliability of evidence go to its weight rather than admissibility, and stress that AI evidence must therefore be explainable.

On this point, others appear to agree. It has been stated that:

“To authenticate AI technology, its proponent must show that it produces accurate, that is to say valid, results. And it must perform reliably, meaning that it consistently produces accurate results when applied in similar circumstances.”⁵⁸

Meanwhile, others emphasize the factors that may undermine that validity and reliability of AI evidence. These include AI's opacity and blackbox algorithms, function creep, the potential lack of any testing or scientific validation about the quality and reliability of AI outputs, and the significant challenge of unearned deference to AI and bias in favor of automated systems. Any of which present significant risks to an accused and the fairness of a trial.⁵⁹

There are many practical suggestions for practitioners endeavouring to assess the admissibility of AI evidence, and for the judges who must apply longstanding evidentiary principles to ensure that AI evidence does not distort the search for the truth.⁶⁰ Ultimately, it appears that there is an important role for law reform in providing clarity and guidance. In particular, the codification of notice provisions and standards specific to AI evidence are worthy of consideration.

2.1.4 The Courts of Justice Act, Court AI Directives, and Law Society Practice Directions

The *Courts of Justice Act*⁶¹ (CJA) defines and details Ontario's court structure. It specifies the jurisdiction and powers of each level of court and includes provisions for the enactment of court rules. These include criminal rules for the Ontario Court of Appeal, Superior Court of Justice, and the Ontario Court of Justice.⁶² Part 7 of the CJA governs court proceedings. These provisions define a range of procedural and evidentiary matters related to:

- Public hearings and access to open proceedings;
- Language of the court;
- Costs and awards;
- The nature of available orders and injunctions; and
- The enforcement of these and other provisions.

The scope, detail and specificity of provisions in the CJA suggest considerable latitude to define provisions that may anticipate and guide many different instances of AI in a court proceeding.

In the absence of any such AI legislation and regulation, however, courts across Canada have begun to introduce practice directions to establish a set of basic expectations and procedures related to the use of AI tools and AI-mediated evidence in litigation.

None of these practice directions specifically target criminal proceedings. And while there are similarities across the practice directions, there is yet no settled standard direction, leading to a patchwork of complimentary and contradictory approaches across the country.

Federal Court Directives

The leading and most comprehensive framework is a pair of complimentary practice directions issued by the Federal Court of Canada in December 2023: “Interim Principles and Guidelines on the Court’s Use of Artificial Intelligence” and “Notice to the Parties and the Profession- The Use of Artificial Intelligence in Court Proceedings.”⁶³ These practice directions respectively establish guidelines for the internal use of AI systems by the Court and set expectations for legal counsel and self-represented or unrepresented litigants.

Internally, the Court clarifies that it will “not use AI, and more specifically automated decision-making tools, in making its judgments and orders, without first engaging in public consultations.”⁶⁴ For greater certainty, the Court clarifies that “this includes the Court’s determination of the issues raised by the parties, as reflected in its Reasons for Judgment and its Reasons for Order, or any other decision made by the Court in a proceeding.”⁶⁵

Instead, the Court’s Technology Committee will pilot the internal use of AI tools, for instance, “a new process for translating decisions written by members of Court.”⁶⁶

The use of such tools will be evaluated according to seven principles identified in the directive:⁶⁷

- **Accountability:** The Court will be fully accountable to the public for any potential use of AI in its decision-making function;
- **Respect of fundamental rights:** The Court will ensure its uses of AI do not undermine judicial independence, access to justice, or fundamental rights, such as the right to a fair hearing before an impartial decision-maker;
- **Non-discrimination:** The Court will ensure that its use of AI does not reproduce or aggravate discrimination;
- **Accuracy:** For any processing of judicial decisions and data for purely administrative purposes, the Court will use certified or verified sources and data;
- **Transparency:** The Court will authorize external audits of any AI-assisted data processing methods that it embraces;
- **Cybersecurity:** The Court will store and manage its data in a secure technological environment that protects the confidentiality, privacy, provenance, and purpose of the data managed; and,
- **“Human in the loop”:** The Court will ensure that members of the Court and their law clerks are aware of the need to verify the results of any AI-generated outputs that they may be inclined to use in their work.⁶⁸

The Court is also committed to public engagement prior to implementing an AI tool or process. If a specific use of AI by the Court may have an impact on the profession or public, “the Court will consult the relevant stakeholders before implementing that specific use.”⁶⁹

The complimentary Federal Court directive regards the use of AI by legal counsel, self-represented and unrepresented litigants, and interveners. The parties have an equal responsibility:⁷⁰

- to inform the Court, and each other, if they have used AI to create or generate new content in preparing a document filed with the Court;
- to make a Declaration for AI-generated content. This applies to “to all documents that are (i) submitted to the Court, and (ii) prepared for the purpose of litigation”
- to consider certain principles when using AI to prepare documentation filed with the Court. These principles include:
 - caution “when using legal references or analysis created or generated by AI” and “to use only well-recognized and reliable sources;” and
 - human-in-the-loop given that “it is essential to check documents and material generated by AI... [to] the standards generally required within the legal profession.”

- to disclose AI within scope. The directive distinguishes between AI “capable of generating new content and independently creating or generating information or documents” against “AI that lacks the creative ability to generate new content.”
- to recognize limitations of AI, including “hallucinations” and “the potential for bias in AI programs, their underlying algorithms, and data sets.”

Provincial Court Directives

Provincial court practice directives are each distinct but share common themes and, in many cases, common language.

Among the shorter policies (typically less than a page long) the directive addresses the responsible use of AI in relation to the reliability and accuracy of the information generated by it. This is the case for directives in [Alberta](#), [Manitoba](#), [Newfoundland](#), Nova Scotia ([Provincial Court](#) and [Supreme Court](#)), [Quebec](#), and the [Yukon Territory](#).

Among these directives, some “urge” or “expect” or “reinforce” principles of responsible use of AI, including “caution” when using any generative AI system; “reliance” by cross-referencing to established authorities; and verification by “human in the loop” standards for authenticity and accuracy. Language in these directives typically resemble or mirror one another, including the Federal Court directive on the Court’s Use of AI.

For their part, three courts in Ontario have formed a “Tri-Court Committee” to establish a unified policy that will govern the use of AI by the courts. A draft is expected at some point in the near future.

For their part, Ontario’s Ministry of the Attorney General also does not specifically address AI in the recent *“Published plans and annual reports 2023 – 2024: Ministry of the Attorney General.”* This appears to be at odds with objectives defined in MAG’s *“2023 – 2024 Strategic Plan”* that:

“The ministry is taking a multi-pronged approach to transforming antiquated systems through implementation of Lean practices to review all processes and implement an end-to-end digital case management system, making investments to establish a sustainable justice system to ensure flexibility in a modern workforce that will be able to adjust for future caseload pressures.”⁷¹

Court Directives Outside of Canada

Some courts outside of Canada have established practice directions of their own. Notable policies include the following:

- United Kingdom: In December 2023 the UK Courts and Tribunals Judiciary introduced their “Artificial Intelligence (AI): Guidance for Judicial Office Holders.” The guidance “sets out key risks and issues associated with using AI and some suggestions for minimizing them” through a principled approach which directs decision makers to ensure they “Understand AI and its applications;” “Uphold confidentiality and privacy;” “Ensure accountability and accuracy;” “Be aware of bias;” “Take [Personal] Responsibility” for AI outputs; and must “Be aware that court/tribunal users may have used AI tools.”⁷²
- United States: At least 17 US federal or specialty courts have issued orders (policies) to guide their local court on the use of AI in litigation. Most recently in late 2024, the U.S. Judicial Conference’s Advisory Committee on Evidence Rules began meeting to develop a regulation on the admission of AI-mediated evidence, including deep fakes. Judicial education also plays an important role in normalizing practices, such as those from The Sedona Conference’s *Navigating AI in the Judiciary: New Guidelines for Judges and Their Chambers* and the Federal Judicial Center’s *An Introduction to Artificial Intelligence for Federal Judges*.⁷³

Law Society Practice Directions in Canada and Elsewhere

Perhaps complimentary to court issued practice directions on AI, law societies across Canada have begun to introduce interpretive guidance on how to use generative AI in a manner consistent with their professional obligations.

To date, this includes:

- Ontario: [Futures Committee Report to Convocation \(including White Paper on Generative AI and Related Resources\)](#) (April 2024)
- Saskatchewan: [Guidelines for the Use of Generative Artificial Intelligence in the Practice of Law](#) (February 2024)
- Alberta: [The Generative AI Playbook](#) (January 2024)
- British Columbia: [Guidance on Professional Responsibility and Generative AI](#) (November 2023).

Themes common across these guidance and interpretation documents include:

- An obligation to recognize the limitations of AI systems, including:
 - Unanticipated spread of confidential information;
 - Hallucinations and inaccurate information
 - Bias;
 - Legal practice, establishment of a client relationship, and provision of advice by AI (such as the use of chatbots for client intake); and
 - Violation of copyright and plagiarism.
- The application of existing professional rules to the use of generative AI tools, including duties related to:
 - Technological competence and ongoing education;
 - Confidentiality, particularly privacy and data settings, terms of service, appropriation of disclosure of privileged information, and the limitations of anonymization;
 - Supervision and delegation;

- Fees;
- Discrimination, harassment and guarding against bias; and
- Communication, candour, and disclosure of the use of AI.

In the criminal context, the Ontario Crown Prosecution Manual (CPM) serves a similar function to general professional regulatory guidance.⁷⁴ The CPM recognizes that it is “necessary in the public interest to have uniform prosecution policies applicable across the province” and to “provide mandatory direction, advice and guidance to Prosecutors on the exercise of prosecutorial discretion.”⁷⁵

The CPM includes 39 different policies. But at present, the CPM makes no reference to the use, impacts, or evidence related to AI. Some policies in the manual have not been updated in half a decade or more. This includes policies where AI could play an increasing role, leaving little guidance for prosecutors and the potential exercise of inconsistent discretion across the province.

At the same time, the Preamble to the CPM also states that “The [CPM] Directives are not intended to replace the sound judgement that Prosecutors exercise. Prosecutors are expected to exercise their discretion in accordance with the overall priorities in the Manual, keeping in mind the need to see justice done in individual cases [...] [and] There will be decisions made daily by Prosecutors that are not specifically described in the Directives.”⁷⁶

This could impact discretion in areas including:

- Risk assessment, such as charge screening, community justice programs and diversion eligibility (for adults and youth), mental health diversion, and dangerous and long-term offenders;
- Disclosure obligations;
- Expert evidence;
- Bail;
- Advice to the police;
- Professionalism; or
- Testimonial aids and accessibility.

Professional regulators outside of Canada have also begun to contend with the challenges of AI. For instance:

- The **American Bar Association** Standing Committee on Ethics and Professional Responsibility recently released Formal Opinion 512, “Generative AI Tools” (July 2024).⁷⁷ Highlights of the policy include: an active obligation to understand the risks, capabilities and limitations of generative AI technologies through ongoing professional education; an obligation to independently verify any generated AI outputs used in client representation, given the potential for hallucinations, flawed logic, misrepresentation of facts, and other limitations; a confidentiality obligation involving any former, current or prospective clients, given the potential for disclosure of client information by AI systems or in the training of AI systems; and a duty to disclose the use of AI when it informs important decisions.
- Several **State Bar regulators** have provided guidance on the use of generative AI in legal practice, including [California](#), [Florida](#), [Kentucky](#), [Michigan](#), [Missouri](#), [New Jersey](#), and [Pennsylvania](#).
- The **European Commission for the Efficiency of Justice (CEPEJ)** considers possible use of AI to support the work of courts and legal professionals. The approach is set out in the European Ethical Charter on AI’s use (2018), described as the first European instrument of its kind. Stated principles include respect for fundamental rights, non-discrimination, quality and security, transparency, impartiality and fairness, and the principle of user control (precluding a prescriptive approach and ensuring that users are informed actors and in control of their choices). The Charter covers potential uses of AI including the processing of judicial decisions and data, to support legal research and case management, and to predict case outcomes and analyze court performance. Appendices 1 and 11 of the Charter review all possible applications and makes recommendations as to their use.⁷⁸

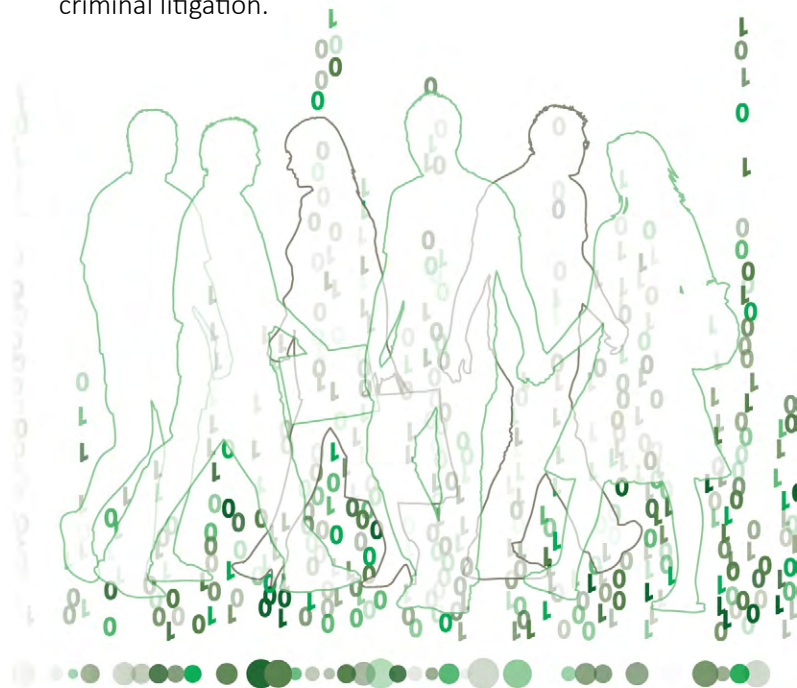
Preliminary Observations: AI and the CJA, Court Directives and Practice Directions

As discussed, neither the practice directions issued by courts, nor the rules and guidance issued by law societies, squarely address practice issues in a criminal proceeding. Nonetheless, these instruments seek to proactively and broadly address some foreseeable concerns with AI in litigation. For instance, they suggest (or impose) a set of minimum expectations for disclosure and transparency; require clearer lines of responsibility in using AI tools; and suggest standards for admitting evidence that may have been generated, selected or mediated by AI systems.

Between these general pronouncements, and the specific challenges AI presents for criminal law practitioners and litigants, the following observations are made:

- **Criminal law requires the highest standard of procedural fairness.** The court directives establish important norms around AI disclosure, transparency, and ethical use. These are, however, minimum standards that do not necessarily grapple with the proportionately stricter application of procedural fairness in the criminal law context, nor the complexities of litigating freedoms and rights under the *Charter of Rights*.
- **Criminal law engages specific and complex issues of fairness that are not addressed in general directives.** General AI policies may set a baseline but offer little proactive assessment of broad issues like balancing procedural fairness with public safety. Nor do they address specific issues typical in criminal proceedings, like investigative privilege, technological trade secrets, source code analysis, expert witnesses, and the role and reliability of risk assessment. Both clear and specific direction regarding when and how AI may be used and practical, effective means of challenging the operation or use of AI in individual cases is required.⁷⁹

- **Criminal law benefits from a consistent approach across the country.** Court directives and professional regulatory guidance on the use of AI are similar, but may still diverge in their scope, complexity, and nuance. This leads to a patchwork of expectations that may lead to inconsistent outcomes and conflicting case law.
- **Court directives emphasize commitment to public engagement prior to AI uses being implemented.** This is both a commitment to transparency and something of a precautionary principle. Public engagement creates an opportunity to identify risks and impacts that may otherwise be overlooked, and which will inform the decision to use an AI system or the check-and-balances on its operation. This commitment also suggests a role for legislation in setting standards on AI assessment, disclosure and consultation to the benefit of all justice-sector institutions and a more consistent set of standards and practices across the system.
- **Trusted third-party services may introduce gaps.** The Federal Court directive clarifies that “it is crucial to use only well-recognized and reliable sources... or trusted public services such as CanLII.” Relying on “trusted sources” as a check-and-balance on AI should be approached with caution. For instance, in 2023 CanLII began offering AI-generated summaries of cases, legislation and regulation in select provinces. As of 2025, coverage has expanded to many other provinces while CanLII continues to introduce additional “AI-powered enrichments.”⁸⁰
- **Self-represented and un-represented litigants do not understand professional ethical issues and practice standards.** Court and professional policies set standards for professionals, or to a professional level, that may be lost on other unregulated litigants. Reliance on professional standards therefore overlooks a significant number of participants and creates foreseeable conflicts in litigation. Moreover, in criminal law, sophisticated criminal organizations and individual bad actors will be unconstrained in their use of AI to advance their criminal enterprise and / or avoid detection and accountability.
- **Court directives and professional regulatory guidance do not absolve government of its responsibility relative to AI.** Governments have an obligation to enact legislation adequate to address the risks and challenges of artificial intelligence in the criminal law context. Court directives and rules of professional conduct place the obligation on individual parties and practitioners to understand and respond to AI’s dangers. Yet this is not remotely or realistically possible. Responding to AI will require a whole of government response and proactive legislation is urgently required.
- **Criminal law’s rules of evidence and standards of admissibility must be reevaluated in the context of AI.** Standing alone, current thresholds of admissibility such as relevance, probative value versus prejudicial effect, and in the hearsay context, necessity and reliability, may prove inadequate in the face of the challenges posed by AI. Notions such as authentication, the “permanence” of exhibits, and the power of cross-examination to test the strength of AI generated evidence adduced must also be considered. Again, general policy pronouncements regarding use of AI will be inadequate absent specific rules governing how the parties and practitioners will introduce and engage with evidence tendered in criminal litigation.



2.1.5 The Crown Attorneys Act

The Provincial Crown Attorney system, as regulated by the *Crown Attorneys Act* (CAA) will play a critical role in governing how and when AI is introduced into the criminal trial, including at the earliest stages – when files are being screened for prosecution.

The CAA governs:

- The appointment of Crown Attorneys, Assistant Crown Attorneys and provincial prosecutors;
- Bestows province-wide authority and jurisdiction upon them;
- Sets out the oath of office for each group; and
- Designates every Crown Attorney and provincial prosecutor agent for the Attorney General for the purposes of the *Criminal Code*.

The CAA also prescribes that the Crown Attorney shall aid in the administration of justice and perform duties that are assigned to Crown Attorneys under the laws in force in Ontario. These acts include but are not limited to:

- Examining informations; and
- Conducting prosecutions, summary conviction appeals, and bail hearings.

CAA section 14.3(3) affords the Attorney General (Crown Attorneys) and others protection from personal liability for acts done in good faith in the performance or intended performance of duties and the exercise or intended exercise of powers under the section.

Like any exercise of discretion, Crown prosecutorial decisions are vulnerable to criticisms of subjectivity and bias. Further, calls are made in criminal courts on a near-daily basis for speedier prosecutions, minimization of delays, more prosecutorial resources, and greater efficiency. Given the existing challenges, Crown screening and prosecutorial decisions would appear to be fertile ground for power, efficiency and ostensible objectivity of AI. Indeed, other jurisdictions have introduced AI to serve this very purpose.

The advent of AI systems invites consideration of the strengths and limitations of this legislative scheme.

For instance, China is credited with having developed an AI prosecutor that can identify dissent and charge people with common crimes with 97% accuracy.⁸¹ Many other prosecutorial functions currently performed by human Crown Attorneys are also now within the purported capacity of AI, such as:

- Predicting the likelihood of success in litigation based on data about the judicial officer and opposing counsel;
- Technology assisted review of documents;
- Natural language legal research;
- Drafting of legal memoranda and pleadings; and
- Forecasting allocations to fund litigation.⁸²

The China model stands to disrupt current modes of thinking about charge screening and prosecutorial autonomy. It raises difficult questions to confront within our own system. For instance:

- The CAA contemplates human beings in the Crown Attorney role, making them accountable agents. If AI asserts a decision-making or decision-supplementing role, how will its agency be made accountable? Are delegation guidelines necessary?
- While delegation of some functions may appear both beneficial and relatively low-risk – such as AI assisted legal research, drafting, and legal brief analytics – is this an evidence-based assumption? How will the Crown satisfy itself that AI tools are both effective and reliable before subjecting humans to AI's advice, recommendations or decisions?
- Given the well-established evidence of AI hallucinations (such as the explicit warning in the Federal Court AI directive), how will the Crown control for this? Will AI be any more efficient if it requires constant human oversight, verification and correction?

- What limitations or other safeguards will be required to protect against concerns regarding bias, transparency, explainability and accountability should prosecutorial duties be delegated to AI?
- What, if any, impact to accused persons' rights to initiate claims for malicious prosecution or pursue remedies for other forms of alleged prosecutorial misconduct would flow from AI's performance of Crown duties?

2.1.6 Victims' Bill of Rights

Ontario's *Victims' Bill of Rights, 1995*⁸³ is premised upon the belief that victims of crime should be treated with compassion and fairness and that the justice system should not increase victims' suffering nor discourage them from participating in the justice process. Its principles include prescriptions for treatment of victims and requirements regarding matters about which they are entitled to receive information (i.e., services and protections available to victims, provisions of the Act, dates, places, and outcomes of significant proceedings) or notification (regarding release or escape of convicted persons), subject to the limitation regarding what is reasonable in the circumstances.

The *Canadian Victims Bill of Rights Act*,⁸⁴ s.2 recognizes crime's harmful impact upon victims and society. It acknowledges that victims and their families deserve to be treated with courtesy, compassion, and respect (including for their dignity). The Act further acknowledges that victims have rights bestowed upon them by the *Charter* and the importance that victims' rights be considered throughout the criminal justice system, including because consideration of victims' rights is in the interest of the proper administration of justice. The criminal justice system is defined to include the investigation and prosecution of crime, corrections and conditional release, and the proceedings before courts and Review Boards. The rights recognized are organized into the following categories: information, protection, participation, and restitution.

In this context, it is easy to imagine that AI might prove helpful in discharging the obligations associated with informing and notifying victims as required by the legislation, but it is more difficult to see how well AI could support victims' rights to courtesy, compassion, and respect. AI's intrusion into the realm of victim services might further subvert meaningful victim engagement and increase the already prevalent victim reports of feeling further traumatized by their experiences during the criminal trial process.

The implementation and use of AI and AI enabled technology must therefore also consider the victim experience of criminal litigation. Extrapolating insights gleaned from literature in the body worn camera context suggests that important considerations will include notification regarding AI's use (and where appropriate, victim consent). Clear communication to victims regarding data access and security. Regular review of AI's impact, and training of police, counsel, and other staff to enhance quality interactions and minimize any deleterious effects.⁸⁵

Project Case Studies

To practically illustrate some of the issues in this discussion, readers are encouraged to review **Annex B, Project Case Studies**. One case study looks at intoxilyzers as an enforcement technology that gains the benefit of procedural efficiency and public safety through an effectively legislated verification, certification and procedural scheme. By analogy, this example might suggest how the benefits of AI could be furthered by effective regulatory schemes. A second case study describes how body-cam evidence is challenged in court, with consideration of the role AI may play in key issues of admissibility and credibility. A third case study considers the various ways in which AI could impact investigation of an alleged domestic violence incident.

2.2 Court Jurisdiction over Trials and Appeals, and Indirect Jurisdiction over Justice-Involved Institutions

This section explores how criminal courts exercise jurisdiction over trials and appeals, and complications AI might introduce to these functions.

This section also considers the limited jurisdiction courts have over justice-involved institutions who may increasingly rely on AI systems. For instance, criminal cases often involve law enforcement, corrections, healthcare services and institutions, social and community support services, Children’s Aid Societies, and immigration and refugee services, among many others. Courts have a limited ability to directly influence the policies and practices of these organizations. However, they can and regularly do exert an indirect influence over outside institutions’ standards and practices.

The concern here is that each of these institutions or sectors may use AI for a variety of purposes and which may figure in the criminal justice process. This may give rise to the issues discussed below, including competing standards for the assessment, performance and oversight of AI systems in different sectors. Such standards may routinely fall short of criminal court standards, or worse, lead to the erosion of those standards due to technological deference, resource limitations, procedural limitations, and general expediency.

At the same time, the criminal litigation process means courts can make orders or otherwise grant remedies that can have profound changes on how justice-involved agencies operate upstream. This suggests a role for criminal courts in assessing and setting standards for the use of AI in many social systems, and merits discussion about the opportunities and challenges this introduces.

2.2.1 Courts and Internal Jurisdiction over Trials and Appeals, and the Challenge of Regional and Local Distinctions

Criminal courts have broad jurisdiction over the trial and appeal process. The courts own jurisdiction, and its related power to make orders and grant remedies, is an important safeguard against the introduction of unreliable evidence as well as against procedural unfairness.

Provincial superior courts possess inherent jurisdiction constitutionally protected by s. 96 of the *Constitution Act, 1867*.⁸⁶ Both superior courts and statutory courts possess powers derived from their authority to control their process.⁸⁷ The superior court’s inherent jurisdiction provides “*the foundation for powers as diverse as contempt of court, the stay of proceedings and judicial review, [but] the doctrine of inherent jurisdiction does not operate without limits.*”⁸⁸ The superior court’s power to order parties to pay costs for frivolous or abusive proceedings or in cases involving misconduct also arises from the court’s power to control its own processes.⁸⁹

Statutory (provincial) courts have been held to have the following powers pursuant to their authority to control their own processes:

- Implied power to award costs on CDSA forfeiture application;
- [Provincial Offences Court has] the jurisdiction to compel an offender to disclose or produce to the prosecution their financial documents for the purpose of sentencing;
- [Provincial Offences Court] power to manage the trial (even includes in exceptional circumstances authority to order Crown to call its evidence in a particular order) and to order Crown to produce a list of documents it intended to put to its witness.⁹⁰

Statutory courts such as the Ontario Court of Justice derive jurisdiction from powers directly conferred upon it and, by implication, any powers that are reasonably necessary to accomplish its mandate.⁹¹

It is anticipated that the introduction of AI into criminal litigation will reveal gaps in the court's process, some of which can perhaps be addressed through the courts' exercise of its authority to control its own process. This flexibility will be critical as not all requisite responses to the introduction of AI into the criminal trial and appeal process can be legislated or otherwise formulated in advance of the technology's rapid evolution. The enumerated criteria found at paragraph 165 of *Ontario (Electrical Safety Authority) v. Broomfield*⁹² will be helpful in guiding statutory courts' attempts to invoke powers implicated by their mandate with respect to the criminal trial process.

Furthermore, courts are not a homogenous entity. As with all programming and alternate forms of technology, the introduction of AI, and the legislative, regulatory, and other changes accompanying it, will have disparate impacts throughout the province. Each court responds to different factors which can vary significantly at the local level, including:

- Assigned resources;
- Local customs and practices;
- Community demographics;
- Local crime rates and distribution of offences charged.

Currently the system navigates and gives effect to local variations in several ways such as:

- Local and regional practice directions governing proceedings in the Ontario and Superior Court of Justice:
 - Ontario Court of Justice Local Practice Directions: "Certain practice directions apply only to local courts... Many individual courthouses also have protocols that are applicable to that court alone. These protocols cover subjects such as any special arrangements for those appearing in court for the first time, or the process for obtaining a judicial pre-trial."⁹³

- Superior Court of Justice: "The Superior Court has enacted a number of practice directions that govern how proceedings in the Superior Court of Justice are conducted. To find out what court practice and procedure applies in a particular area, please see the corresponding judicial region. Both province-wide and region-specific practice directions are listed. Also listed are notices, guides and region-specific forms relevant to proceedings in each region."⁹⁴
- Availability / inventory of programming for accused parties varies by local John Howard Society office:
 - Direct Services by John Howard Location; Youth Program and Service Inventory by Local Office; Adult Program and Service Inventory by Local Office.⁹⁵
- Availability of services and service provider varies for victims across the province of Ontario:
 - The Ontario Network of Sexual Assault and Domestic Violence Treatment Centres lists 37 treatment centres administered by local Ontario hospitals and health care agencies.⁹⁶
 - The list of family court support workers includes a different agency serving each community / court location.⁹⁷

The volume and variety of AI tools and AI enabled technology that will be used across the countless agencies, communities, and court locations (already heterogenous themselves) is certain to further complicate the ability of Ontario's courts to mount a cogent and cohesive response to the many challenges that AI will pose in the criminal trial and appeal context.

2.2.2 Courts Exercise Indirect Jurisdiction Over Justice-Involved Institutions Including Law Enforcement, Corrections, Hospitals and Community Programs

Courts also have limited jurisdiction over external institutions and sectors that are frequently justice-involved.

For instance, criminal cases often involve law enforcement, corrections, healthcare services and institutions, social and community support services, Children’s Aid Societies, and immigration and refugee services, among many others. Courts have a limited ability to directly influence the policies and practices of these organizations. However, they can and regularly do exert an indirect influence over outside institutions’ standards and practices. Through litigation, courts can make orders or otherwise grant remedies that can have profound changes on how justice-involved agencies operate upstream.

A concern is that each of these institutions or sectors may use AI for a variety of purposes and which may figure in the criminal justice process. This may give rise to the issues discussed below, including competing standards for the assessment, performance and oversight of AI systems in different sectors. Such standards may routinely fall short of criminal court standards, or worse, lead to the erosion of those standards due to technological deference, resource limitations, procedural limitations, and general expediency.

As explained below, these challenges may be explored through a mix of both administrative law principles and judicial review, and within a criminal proceeding itself.

Law Enforcement

Administrative law principles bring many of the decisions of justice-involved institutions within the scope of judicial review. The Supreme Court of Canada determined in *Highwood Congregation of Jehovah’s Witnesses (Judicial Committee) v. Wall* that

“Judicial review is only available where there is an exercise of state authority and where that exercise is of a sufficiently public character.”⁹⁸ Courts have determined what these “public character” factors are.⁹⁹

A leading example of this oversight role is the recent case *Khorsand v. Toronto (City) Police Services Board*.¹⁰⁰ Mr. Khorsand, a Canadian citizen, immigrated from Iran. He failed the background check screening process when he applied to the Toronto Police Service for employment as a police constable. He then sought judicial review of the screening decision and the information upon which it was based. The Divisional Court held that the Toronto Police Services Board must provide Mr. Khorsand with the reasons why he failed the background check, and a copy of the information relied upon to justify that failure.

In reaching that conclusion, the court agreed that the matter involved a human rights issue of great public interest as decisions not to hire racialized individuals because of incidental interactions with police shake the public’s confidence in the law enforcement system and prevent authentic representation of the local population within the police service.

The case is illustrative of how courts have to review their jurisdiction to intervene in the practices and policies of a variety of institutions, any of which could use AI in ways courts find concerning.

Corrections

In the correctional context, applicant inmates have successfully sought judicial review of:

- A decision whereby an inmate was convicted of possession of an unauthorized item (injection rig);¹⁰¹ and
- The Commissioner’s refusal to correct information in the inmate’s case management file which, though not accurate and up to date, had been used to change the inmate’s security status from medium to maximum.¹⁰²

Legal Aid

Several cases indicate that legal aid may also be subject to judicial oversight in matters concerning legal representation and funding for defence counsel. This may be a key issue given the foreseeable number and variety of challenges to different AI technology and uses as part of criminal cases. Notably, however, the following cases are not administrative law decisions, rather, they are decided under provisions of the *Youth Criminal Justice Act*¹⁰³ (rather than the *Legal Aid Services Act* that defines Legal Aid Ontario and its various programs).¹⁰⁴

Nevertheless, in the youth criminal justice context, courts have intervened in several cases including:

- *R. v. J.H.*: A youth court judge was required to hold a hearing to determine why the young person was refused a legal aid certificate. The enquiry was to include a consideration of the young person's ability to access the financial resources of his or her parents.¹⁰⁵
- *R. v. B.L.A.*: The onus was on the young person to satisfy the court that he was entitled to legal representation. He was undermined in this application because of his youth, immaturity and ignorance. Legal Aid was ordered to provide counsel to represent the young person to enable him to properly present his application.¹⁰⁶
- *R. v. E.R.B.*: This case determined that it was inappropriate to apply to the court for the appointment of counsel to effectively circumvent Legal Aid Ontario's financial eligibility and assessment criteria. Legal Aid, and not the court, should assess ERB's financial need. The matter was adjourned to allow ERB's parents to make financial disclosure to Legal Aid.¹⁰⁷

Hospitals

Perhaps one of the best examples of the criminal courts' exercise of indirect jurisdiction over hospitals is seen in the mental disorder provisions defined in *Criminal Code* Part XX.1 (s. 672). This part of the *Criminal Code* governs determinations of fitness to stand trial, not criminally responsible, as well as the Ontario Review Board and its proceedings.

Section 672.1 defines a hospital as "a place in a province that is designated by the Minister of Health for the province for the custody, treatment or assessment of an accused in respect of whom an assessment order, a disposition or a placement decision has been made."¹⁰⁸ While the criminal court's direct jurisdiction in section 672 is over the accused, the effect of the provisions and determinations made pursuant to them is to bestow indirect jurisdiction over the hospitals where assessments are conducted, and to which accused are remanded as a result of dispositions, placement decisions, and otherwise.

Beyond Part XX.1 of the *Criminal Code*, there are examples of the criminal court exercising indirect jurisdiction over hospitals. For example, in *R. v. Knoblauch* the Supreme Court of Canada upheld the sentencing judge's imposition of a conditional sentence and probation order that ordered a hospital to keep the accused in a locked psychiatric treatment unit where he was receiving treatment.¹⁰⁹

Children's Aid

Criminal courts may exercise jurisdiction over local Children's Aid Societies in a variety of ways. For instance, they frequently prohibit an accused from contact with child victims except under the supervision of the local Children's Aid Society. Sections of the *Criminal Code* also empower courts with jurisdiction to order the production of documents from Children's Aid Societies.¹¹⁰ Court orders made under these provisions have real and practical effects upon the societies' operations and resources. Yet despite the direct impact flowing from the decisions of criminal courts, there is no coordinated approach to resourcing, procurement of technology, case management, and tools for records creation and administration.

The potential future use of AI systems by Children’s Aid – for example to conduct assessments or predict harms – will further exacerbate these challenges. It suggests a need to consider enhanced coordination when legislating and making policy choices in relation to AI, such as consequential amendments to provincial legislation or the *Criminal Code*. The lack of coordination arrests efficiencies, squanders resources, and negatively impacts the experiences of those served by the child protection and criminal justice system.

Community Programs

There are many community programs delivering services to participants in the criminal justice system. Those services range from anger management, intimate partner violence, substance abuse and grief counselling, to vocational training, interpretation services, and programs for Indigenous people. The standards and practices of such programs are often driven by the needs of the criminal court.

AI is poised to insert itself into the delivery of these kinds of services and programs. It stands to reason that criminal courts will continue to exercise significant influence over these programs and thus will play a role in setting standards if not regulating any such uses of AI. However, the concerns with AI are manifold, and criminal courts operate independent at the local level. This suggests a patchwork approach that may create different standards and practices around the province.

AI’s potential to erode established standards is foreseeable. Also foreseeable is the need to develop a clear, coordinated, and cogent legislative and policy framework governing AI use across the criminal justice system and the institutions over which criminal courts exercise indirect jurisdiction.

2.2.3 Criminal Courts Rely On – But May Challenge – The Internal Practices, Policies, And Standards of Justice-Involved Institutions

Criminal courts rely on, but may challenge, the internal practices, policies, and standards of justice-involved institutions. This occurs in a variety of contexts with diverse outcomes and consequences for the institutions’ practices, policies and standards as well as the criminal trial and appeal process and the remedies available to the accused and other parties. It is submitted that, although somewhat dated and involving relatively modest technology by AI standards, this line of cases provides insight into the ways in which artificial intelligence may be treated during the criminal trial and appellate process.

The first line of cases considered the issue of prisoner transport, the incumbent delays and interruptions this caused for the criminal courts, and the need for courts to exercise jurisdiction over these procedures.¹¹¹ In some cases, this resulted in significant backlogs and ultimately citations for contempt of court for the police service and its then Chief. Immediately upon being cited the police service hired additional staff and implemented a plan to avoid future delays. A further case determined that labour issues and a work slow down by correctional officers delayed the departure of prisoner vans from the jail to the courts. This triggered a “constitutional crisis” as the delayed transport subsequently delayed criminal proceedings. The situation was found to be “a serious affront to the rule of law and a breach of the s. 7 Charter right of the in-custody accused, persons awaiting trial who are presumptively innocent, to unfettered access to the courts.”¹¹² The superior courts’ inherent jurisdiction was invoked to “to defend their own authority’ including prevention of conduct ‘which restricts access to the courts.’”¹¹³

A second line of cases saw courts intervene into the sufficiency of transcripts.¹¹⁴ In the first instance, transcripts related to impaired driving were found to be deficient and inadequate as a record of what transpired in the court below. The court accordingly ordered the Attorney General to provide a new transcript and directed that the appeal be listed for a hearing within 30 days.

In another case, a discrepancy was found between an audio recording of a bail hearing and the transcript produced by the prosecution.¹¹⁵ A court monitor also “certified” the transcript with no legal authority to do so. The Crown was ordered to pay \$200 in costs with the court noting that the inaccurate transcript wasted twenty minutes of court time, resulted in the applicant being held overnight, and because the error in the transcript made it appear as though a legitimate ground of complaint existed when it did not.

A third case determined that a transcript made errors in part because of a failure of internal checks and balances including proofreading the transcript before certification and release.¹¹⁶

Together, this mix of cases suggests how criminal courts may exercise their jurisdiction over AI systems and impose rights and remedies that may be found to be engaged. In essence, the analogy to be drawn between this line of cases and how courts may eventually consider and contend with AI, revolves around the fact that transcripts generated from evidence taken by a sound recording device proved disastrous from an adequacy of the record standpoint (for instance, 500 errors were found to exist in the original *Singh* transcript.¹¹⁷ The disastrous result arose in circumstances where the “technology” was utilized without adequate training of the human actor “using” the technology and without adequate supervision and oversight of that primary human actor. The inadequate oversight included an apparent lack of appreciation for the limits of the technology and a systemic failure to ensure adherence to measures designed to support the technology in achieving its intended objectives and to address quality control. Similar systemic concerns were cited in the *Hannemann* case, finding that training and oversight was limited and recording equipment was in poor repair and used under inappropriate conditions.

In *Hannemann*, Hill, J. noted the following with respect to rights and remedies in the circumstances of that case:

- There can be no meaningful right of appeal in the absence of an adequate transcript.
- Inaccurate transcripts carry a risk of miscarriage of justice.
- The accused’s fair trial rights were compromised, and the independence of the judiciary was impaired.
- The appearance of justice and fairness were tarnished.
- However, there was no miscarriage of justice or abuse of process requiring a new trial.

In both the transcript and prisoner transport cases referenced, the criminal court intervened to challenge the practices, policies and/or standards of the justice-involved institutions impacting the issues being litigated. If the word “transcript” is replaced with the word “record” in the bullet points which appear immediately above, the analogy as to how courts may challenge AI in similar ways becomes clear.

At the same time, these cases also suggest how AI, if implemented with proper guardrails, check and balances, may improve the efficiency of matters which courts may otherwise have to intervene in.

2.2.4 Case Study: How Courts Might Take Issue with Use of AI Policies Developed by Law Enforcement

In criminal proceedings, courts often take issue with police policies during *Charter* applications. Such applications require evaluation of impugned police conduct and its impact upon the rights of the accused and will look to police policies to interpret their practices. For example, courts have inquired into the breach of fundamental *Charter of Rights and Freedoms* protections by looking at standards or practice defined in police policies (both formal documents and informal “systemic practices”) governing the strip searching of prisoners¹¹⁸ and jail cell monitoring via video surveillance.¹¹⁹

Several of the issues deliberated in these and other cases suggest how courts might interpret use of AI policies developed by law enforcement agencies.

At present, the leading such policy in Ontario is the Toronto Police Services Board (TPSB) policy “Use of Artificial Intelligence Technology.” The policy directs Toronto police “to provide effective and accountable policing through the prudent adoption of new technologies, while, at the same time, ensuring transparency and making certain that policing is provided in accordance with both the law and the interests of the public, and protects and promotes fundamental rights.”¹²⁰

The policy goes on to establish Board governance over “the consideration of the use of new or enhanced technologies using AI, or of previously approved AI technology that is to be used for a novel purpose or in a novel circumstance, and to establish an assessment and accountability framework.”¹²¹

To achieve this aim, the policy creates an AI risk categorization scale defining different requirements for AI used in extreme, high, moderate, and low risk contexts. Extreme risk technologies are presumptively prohibited and cannot be considered for adoption. High and moderate risk AI are not to be procured or deployed without prior reporting and approval of the Board. The Board must be informed of the decision to procure or deploy low risk technology at the earliest opportunity and receive an explanation for the low-risk designation.

Other features of the policy include subjecting AI technology to risk assessment prior to procurement, implementation, or deployment (effectively adopting a “precautionary principle”); a risk mitigation plan (including auditing to ensure adequate and lawful use); a means for the public to report concerns; public and stakeholder engagement to communicate known risks; and a system for continuous review, including suspension of any AI technology identified as “extreme risk” and in use prior to adoption of the policy.

Among the criminal court cases reviewing police policies, several principles and factors are likely to have a bearing on the interpretation of AI review and practices internal to police. For instance:

- AI is a relatively new technology that can be put to a variety of uses. In reviewing police AI policies, the concept of “case of first instance” may be invoked to insulate or defer to the policies of law enforcement given this novelty.
- AI is a technology that is often unseen unless its use is proactively disclosed. In reviewing police AI policies, courts may look to transparency provisions about the risks of using AI and requirements to communicate these risks to the public in determining if a particular use is egregious enough to merit a stay of proceedings.
- AI systems may be assessed to one standard and operationalized to another. Courts may intervene and find egregious breaches where the technology is used in ways that may not meet the set policy standard or used in ways outside the documented policy.
- AI governance measures may be deemed informed and sufficient to warrant deference given the significance of available remedies. For instance, courts may interpret the standards articulated in an AI policy as mitigating against a stay of proceedings as a prospective remedy even where the conduct and use of AI at issue is found to constitute a violation of *Charter* rights.¹²²
- AI may create valid new enforcement interests that will engage new or analogous concerns with a range of privacy rights. The TPSB policy acknowledges that new technologies may impact privacy, dignity, and equality of the individuals affected. Courts have consistently held that there are permissible limits on the right to privacy when valid law enforcement interests are engaged, particularly following arrest.¹²³ However, criminal courts have also recognized that dignity and bodily integrity must be respected, raising the prospect that complex, data-driven systems like AI may engage such rights.¹²⁴

The balancing of these interests will always be context driven and before the criminal law is likely to factor significantly into the conclusions reached regarding the appropriate balance. Consider a “street checks” analogy. As a stand-alone practice, street checks might support a court’s finding of a valid law enforcement objective. However, the validity of the law enforcement objective is likely to be outweighed by concerns regarding the infringement of rights where the practice is premised or applied in a biased or discriminatory fashion, or to otherwise negatively impact racialized and other historically disadvantaged groups.

The TPSB Use of AI policy states that all use of technology, including AI technology, will adhere to a number of principles including transparency. Specifically, under the transparency heading the policy states: “[w]here a decision assisted by AI technology may lead to the laying of criminal or other charges against an individual, the possible influence of the AI technology must be included in the disclosure provided to the Crown.”¹²⁵

Trial and appellate courts are certainly empowered to review issues related to alleged non-disclosure. Where charges are laid, disclosure of the factors which featured in the formulation of reasonable grounds would be expected to be shared in disclosure materials. However, it is difficult to imagine how the obligation the TPSB policy contemplates under the heading transparency in relation to charges which “may” be laid could ever be taken up by courts or supported by the Crown given jurisdictional concerns and the well-established privilege relative to matters under investigation.

Perhaps the passage cited above is intended to convey that: “[w]here a decision assisted by AI technology may **have led** to the laying of criminal or other charges against an individual, the possible influence of the AI technology must be included in the disclosure provided to the Crown.” Especially since the policy states:

“Where full transparency may unduly endanger the efficacy of investigative techniques or operations, the Service will endeavour to make publicly available as much information about the AI technology as possible . . .”¹²⁶

However, another question arises. Consider the obligation under the heading Review and Assessment of new AI Technologies that:

“all Toronto Police Service members be trained to identify new AI technologies” for the purpose of obtaining an approval in accordance with [section] 1(a). [Section] 1(a) stipulates that TPS members “may not use new AI technologies prior to receiving approval and training in accordance with the procedures and processes.”

How can individual TPS members be expected to recognize AI impacts? Is there anyway to ensure effective training in this regard? Is this obligation on police officers, possible to achieve, fair, reasonable, and/or enforceable?



Subsequent to these developments, the Information and Privacy Commissioner of Ontario (IPC) wrote to the Toronto Police Service Board in a letter dated December 20, 2021 as part of the public consultation process. The letter addressed recommendations aimed at clarifying and strengthening the policy, which are summarized here for guidance when assessing other AI policies. The IPC's letter included recommendations to clarify the focus, definitions of key terms, and who and what are covered in a dedicated scope section of the policy such that:

“there is no doubt about whether ‘members of the public’ includes victims of crime, complainants, person of interest, suspects, people in custody, Service members themselves, or job applicants to the Service. Ambiguity about the Policy’s scope could lead to uncertainty about whether or not tools such as those to detect altered fingerprints, crack mobile device passcodes, monitor Service member stress levels, or streamline recruiting processes at the Service would be subject to the Policy.”¹²⁷

It was also recommended that the TPSB ensure de-identified information and group privacy issues are in-scope, clearly require a retroactive assessment of AI currently in use by the Service and rework the risk rating scheme.

Regarding risk, it was recommended that the risk ratings scheme should be based on harm rather than applications; that TPSB recognize that use of multiple AI systems may be used in ways that cumulatively may lead to new risks, and that members of impacted communities be included in the stakeholders involved in the development of the risk rating scheme.

Finally, the IPC recommended expansion of internal oversight and accountability provisions, the establishment of requirements for effective intervention and meaningful explainability and continued public consultation. Noting that few public sector policies meaningfully incorporate participation from the public and external stakeholders, it was recommended that consultations with the Information and Privacy Commissioner and public should be

considered for automated decision making-systems that might pose high risks. Specifically, criteria should be developed to establish the circumstances in which a public consultation should be included as part of the pre-deployment risk assessment process.

2.3 How is AI Being Introduced into Criminal Proceedings?

2.3.1 Different AI Systems Are Already Appearing in Court

To date, in the province of Ontario, AI has been introduced without a regulatory scheme or guidelines specifically designed to address its impact upon criminal law and proceedings. As previously articulated, “the LCO has identified many unexplored, unregulated and poorly understood issues respecting data, discrimination, algorithms and the law.”¹²⁸

See LCO ***Project Paper 1, Introduction and Summary*** for an overview of existing policies and legislative provisions in Ontario and across Canada.

Broadly speaking, artificial intelligence has entered the criminal trial process in Canada through law enforcement procurement of AI-based technology, AI enabled legal research products and other AI technology engaged with at the investigative stage or in use within the public sphere. In future, AI outputs might be tendered as evidence at a criminal trial (including on *Charter* motions and at the sentencing phase), when determining bail pending appeal, and upon appellate review of conviction and sentence because of its potential use for the following purposes:

- Photographic and video analysis, including facial recognition;
- DNA profiling and evidence, including probabilistic genotyping;
- Predictive crime mapping (predictive policing);

- Mobile phone and extraction tools;
- Data mining and social media intelligence;
- Bail algorithms that predict likelihood of future arrests or failure to appear;
- Sentencing algorithms that predict likelihood of future arrests;
- “Scoring at arrest” algorithms that advise how to charge an individual;
- “Scoring suspects” algorithms that predict an individual’s risk of future behaviour;
- “Scoring victims” algorithms that predict likelihood of being a victim of crime; and,
- Correctional algorithms that predict likelihood of offending within an institution.¹²⁹

AI is also certain to be adduced at trial because of its use by non-state actors.

Today, AI photo generators and editors, Chat GPT, and other AI technology is literally at the fingertips of anyone with access to the internet. In some cases, the commission of crimes will be assisted using readily available AI tools such as those mentioned above. While other circumstances and criminal objectives made possible or easier with the help of AI will “demand advanced technological skills, costly infrastructure, and considerable time investments.”¹³⁰

In either case, many forms of criminal activity may thrive with AI assistance that enables more sophisticated phishing, social engineering attacks, AI powered malware and adversarial attacks on AI systems to disrupt their functioning (i.e., facial recognition and autonomous vehicles).¹³¹ The creation of remarkably realistic deepfakes, deceitful websites, disinformation campaigns (including those that spark political and other forms of violence), fraudulent social media profiles and AI-powered scam bots will also be possible and cases involving all of the above are certain to eventually be brought to trial.¹³² Thus, artificial intelligence is certain to enter the criminal trial process, even if the procurement of AI technology by various sectors and institutions is done in a thoughtful and deliberately slower and more cautious way.

See the LCO’s document **Annex B, Project Case Studies** for a study in how AI could practically impact the investigation and trial of an alleged domestic violence incident. For instance, the scenario examines the role of police, courts and legal counsel in anticipating and responding to the impacts of potential deep fake images and audio; the role of AI-enabled risk assessments; the provision of emergency and other support services through AI-enabled chatbots; and courtroom tools that may raise concerns for equal access to justice as between free and paid legal AI tools.



2.4 AI and Improved Access to Justice in Criminal Law

2.4.1 Concerns For Bias and Discrimination in Court Proceedings is Already Widely Seen Even Without AI

Concerns for bias and discrimination within justice-involved institutions, law enforcement practices and the criminal trial and appeal process have long been noted in common law jurisprudence and academic literature. They have also been the subject of comment by the media, criminal justice system participants, academic study, and various communities that the system serves. A series of cases highlights how courts have affirmed these concerns and thus suggest how these kinds of issues may play out when assessing potential bias and discrimination in AI systems. These legal findings include:

- *R. v. Parks*:¹³³ The extent and intensity of racist beliefs in contemporary Canadian society recognized as justification for permitting defence to challenge for jurors for cause, preferably in all cases where the accused requests the inquiry. Furthermore, bias only renders a juror partial if it would cause juror to discriminate against black accused in reaching verdict.

- *R. v. Spence*:¹³⁴ The court considered efforts to extend the *Parks* challenge to include jurors of same race as victim. Establishing partiality requires satisfying the court that: (1) a widespread bias exists in the community and (2) some jurors may be incapable of setting aside this bias, despite trial safeguards, to render an impartial decision. Cases do not support a generalized conclusion that race-based natural sympathy affects all trials where accused, complainant, principal witnesses and jurors are not of the same race.
- *Ewert v. Canada*:¹³⁵ The risk assessment tools used to determine parole eligibility were found susceptible to cultural bias and thus unreliable. Furthermore, assessments were found to be a contributing factor in decisions that had adverse impact on Ewert’s incarceration.
- *R. v. Le*:¹³⁶ This case examined the role of systemic discrimination in the perception of an accused as to whether he is being detained by police.
- *R. v. Sitaldeen*:¹³⁷ Conducted an assessment related to an allegation of racial profiling and includes discussion of unconscious bias.
- *Khorsand v. Toronto (City) Police Services Board*:¹³⁸ This case considers impact of higher rate of police interaction upon marginalized communities and racial minorities; including detrimental effects upon physical and mental health, employment and educational prospects and undermining of public confidence in the administration of justice.
- *R. v. Morris*:¹³⁹ This case found that social context evidence is admissible at sentencing (and on appeal) regarding systemic factors such as anti-Black racism and other background information about issues impacting members of Black of communities. There are a variety of ways to introduce the evidence, including through an *Impact of Race and Culture Report*. However, while the evidence is relevant to the moral blameworthiness of the offender, it is not relevant to an assessment of the gravity of the offence.

2.4.2 Access To Justice and Inequity in Challenging Non-AI Technology is Already a General Concern

Existing non-AI forms of technology can be difficult to challenge and already present barriers to equality and access to justice. Among the potential issues to be overcome:

- Ability to understand the technology, including by self-represented accused, duty counsel, counsel, and the court.¹⁴⁰
- Whether the right to effectively challenge the technology exists in law and, if so, whether it can be practically invoked in the circumstances. For example, consider the ability of a self-represented accused to effectively challenge identification evidence in the form of DNA results of astronomical probability.¹⁴¹
- Availability of relevant experts, expense, and time required to challenge technical evidence at trial.
- Technical bias and the tendency to believe technology over human witnesses.
- Difficulty of detecting technical malfunction and operator error and effectively exposing these issues in cross-examination.
- The nature of data collected challenges concepts of privacy and right against self-incrimination (i.e., regarding location, travel patterns, personal health and physiology, activity patterns, internet search history, associations to individuals and organizations, etc.).¹⁴²

2.4.3 The Impacts and Challenges of New AI-Enabled Technologies is Foreseeable

The criminal justice system strains under the weight of significant change of the kind that technology often brings. While law enforcement may take years to research, plan for, and procure new investigative technologies other stakeholders may be “caught off guard,” unprepared, inadequately resourced or for other reasons unable to mount an optimal response in a changing landscape. Given that AI is new to everyone, this suggests an opportunity for a more deliberate approach to plan for this change.¹⁴³

The foreseeability of AI’s attendant impacts and challenges is possible because:

- The parties and participants in the criminal process are well defined, as are the justice adjacent institutions with which the criminal courts routinely interact.
- The criminal law has significant experience grappling with new technology.
- There exists a shared understanding of the rights and obligations engaged during a criminal trial and their vulnerabilities both generally and in the face of technology are well understood.

So, while technology is frequently unleashed in a rapid and haphazard fashion, its potential consequences are not unforeseen. The predictability of the ways in which artificial intelligence will challenge and impact the criminal law can be conjured and considered under the broad “headings” bulleted above. A criminal trial pits the individual and the state against one another in a publicly accessible adversarial process where the imbalance of power is significant but constrained by legal principles, precedent, statutory and legislative schemes designed to deliver just outcomes. Experience has taught that classism, racism, and gender inequality permeate all sectors of society and its institutions, and the criminal trial and appeal process have not been immune. Thus, efforts to overcome their impact must be thoughtful and deliberate at every stage of AI implementation from design to deployment.





3. Key Concerns, Issues, and Questions: Reliability and Procedural Fairness Concerns Raised by AI in the Criminal Trial

Earlier papers in the LCO AI in Criminal Justice series outline an array of challenges AI poses for criminal justice in general. At the outset it was accepted that comprehensive review for potential law reform is required. This is because Canadian legal standards and rules governing AI are either yet to be developed and implemented or have foreseeable deficiencies in addressing the systemic legal issues engaged by AI. This section of the paper illustrates the many reasons why this is the case, specifically in the context of criminal litigation.

To formulate recommendations for meaningful law reform, the discussion that follows will identify areas in which existing legal policy, criminal justice frameworks and the trial and appellate process are likely either adequate or inadequate to respond to the many and substantial challenges of AI.

The challenges posed by AI to criminal litigation can be broadly organized within two areas of concern already highlighted in this section: reliability and procedural fairness. Each of these areas include numerous sub-categories. Each implicate the core goal of criminal litigation: to resolve a criminal dispute reliably and fairly.

3.1 Assessing the Reliability of AI Evidence

3.1.1 Bias, Assumptions and Scientific Validity: How AI May Impact the Truth-Seeking Function of Criminal Trials without Adequate Guardrails

In Canadian jurisprudence, it is frequently emphasized that a criminal trial is a search for the truth.

The ultimate aim of any trial, criminal or civil, must be to seek and to ascertain the truth. In a criminal trial the search for truth is undertaken to determine whether the accused before the court is, beyond a reasonable doubt, guilty of the crime with which he is charged.¹⁴⁴

The criminal trial – along with any subsequent appeal process, if triggered – is the epicentre of the justice system. Criminal trials are where justice is practiced and dispensed; where the parties and stakeholders converge in full public view to apply, test and interpret criminal law; where constitutional validity is assessed; and where statutory provisions are either affirmed, declared partially invalid, or struck down and declared to be of no force and effect.¹⁴⁵

The introduction of AI tools into the criminal trial raises serious concerns about bias, hidden assumptions, and a lack of scientific validity. It is a well-documented problem with AI tech that biases and assumptions informing AI algorithms, source data, or the tool's implementation, can affect the resulting output. This problem was simply stated by the LCO in *The Rise and Fall of AI and Algorithms in American Criminal Justice: Lessons for Canada*:

The most trenchant and troubling criticism of pretrial risk assessments – and many other forms of AI and algorithms in criminal justice – is that they are racist. For these reasons, organizations such as Human Rights Watch believe algorithmic risk assessments to be “a sophisticated form of racial profiling.”¹⁴⁶

This problem – sometimes referred to as “bias in, bias out” – has received particular attention in relation to police use of Facial Recognition Technology (FRT). As discussed in LCO Project Papers 1 and 2, police have used FRT in order to compare the faces of persons in vast surveillance data against known persons in police investigative databases. Such a comparison would be practically impossible using traditional investigative methods; however, FRT automates this comparative process, and thus presents new and wildly efficient investigative results. The technology offers the prospect of being able to identify persons with like features after completing thousands of automated comparisons. But the reliability of these results has been called into question due to issues of bias.

Several commentators have observed that bias within the data used to train and fuel AI may exacerbate unfairness and distort truth seeking in the criminal trial process:

Results generated from these black box' calculations may appear like an objective science, but closer analysis reveals this technology's foundational reliance on observational biases that are crystallized into the enforcement records used to train this technology.¹⁴⁷

FRT, in particular, has been criticized as incorporating inaccuracies and biases within their datasets and algorithms. This can result in “false negatives,” in which the technology does not recognize a match, and therefore fails to detect a suspect. But the flawed inputs can also produce “false positives,” in which an individual is incorrectly identified matched as a suspect. Such false positives have led to wrongful arrests and detentions, along with the accompanying deprivations of liberty and indignities that so often accompany police detention.¹⁴⁸ As observed by the CCLA and the Citizen Lab:

Study after study has demonstrated that facial recognition technology is most accurate on white male faces, and gets worse for women, youth, and people of colour, particularly Black individuals. Indeed, many companies who make this technology,

including IBM, Microsoft, and Amazon, have voluntarily chosen to stop selling it because they recognize it may do terrible social harm.

Yet in Canada, facial recognition technology has been deployed by police forces without notice, meaningful consultation, or public oversight and accountability.¹⁴⁹

Similar concerns have been raised about Probabilistic Genotyping DNA tools. Such tools have been increasingly used in an attempt to analyze non-traditional, “uncomplicated” DNA samples – such as where there are multiple contributors, degraded samples or small samples.¹⁵⁰ In the LCO Commissioned Report, *AI Case Study: Probabilistic Genotyping DNA Tools in Canadian Courts*, authors Presser and Robertson characterize probabilistic genotyping (PG) tools as “the first artificial intelligence tools in regular use in the criminal courts in a number of Canadian jurisdictions.”¹⁵¹ In their study they raise concerns about the presence of bias affecting PG outputs:

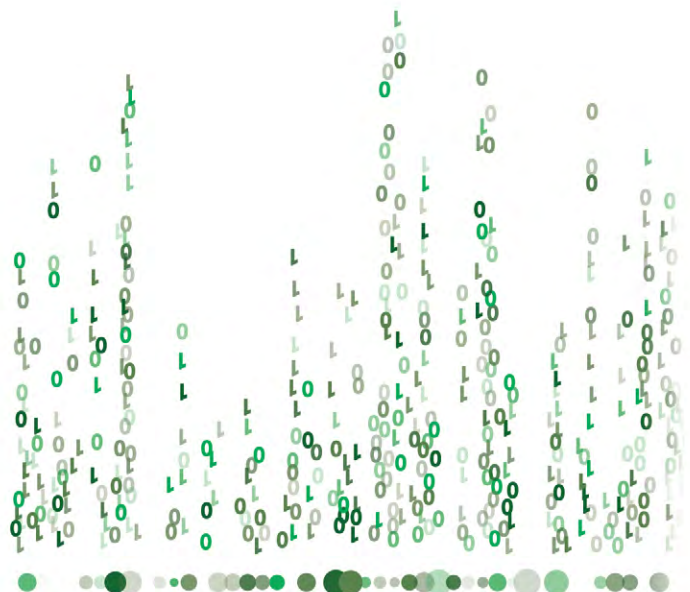
Although PG algorithmic systems appear to be objective, and represent a step forward from purely subjective approaches to the interpretation of complex DNA mixtures, there are many ways in which assumptions by the tool’s developer, the lab, or the analyst factor into their results... In the absence of rigorous, independent, and comparative scientific validation of PG systems, no one knows what the impacts of those assumptions are on the reliability and accuracy of the tool’s results.¹⁵²

The criminal justice system has learned to keep careful watch out for bias and hidden assumptions. These problems were at the heart of the injustices perpetrated in the Charles Smith cases. Inquiries following the tragedies outline below have illustrated the importance of science-based tools / examinations being carefully scrutinized for scientific validity and well understood so that internal biases and assumptions can be clearly identified. Criminal trials cannot hope to produce reliable results until more work is done to understand, regulate and screen for these issues.

3.1.2 Inherent Reliability

A key challenge posed by the introduction of AI in criminal trials is the risk that it will be too-easily accepted as reliable, or that limitations in the evidence’s reliability are resistant to exposure. This can be thought of as the “inherent reliability” problem of AI evidence. Problems with inherent reliability / unreliability are distinct from some of the challenges reviewed below – systemic issues of procedural fairness that prevent the thorough testing of AI evidence. The problem of inherent reliability is narrower. It speaks to the ways in which reliability problems in evidence can be difficult to identify and/or expose.

A helpful analogy can be drawn from the hearsay context to understand the distinction. Hearsay is evidence generated out of court that is being adduced by a party for the truth of its contents. Hearsay, like AI evidence, has been recognized as containing inherent dangers. Unlike AI evidence, hearsay has clear means to resolve its inherent deficiencies. For instance, in a hypothetical prosecution for a robbery, the Crown may seek to introduce a witness statement identifying the accused as a robber. The Crown indicates it is introducing the statement to prove the accused was the robber. If the Crown did not call the author of the statement as a witness, that witness statement would be hearsay. The reliability of such hearsay evidence is suspect, and a party’s ability to test the reliability of the evidence is restricted owing to the absence of the declaring witness.



Our courts have nonetheless identified means of testing the reliability of hearsay evidence to determine whether it is sufficiently reliable to be admitted:

To determine whether a hearsay statement is admissible, the trial judge assesses the statement's threshold reliability. Threshold reliability is established when the hearsay "is sufficiently reliable to overcome the dangers arising from the difficulty of testing it." These dangers arise notably due to the absence of contemporaneous cross-examination of the hearsay declarant before the trier of fact. In assessing threshold reliability, the trial judge must identify the specific hearsay dangers presented by the statement and consider any means of overcoming them. The dangers relate to the difficulties of assessing the declarant's perception, memory, narration, or sincerity, and should be defined with precision to permit a realistic evaluation of whether they have been overcome.

[...]

The hearsay dangers can be overcome and threshold reliability can be established by showing that (1) there are adequate substitutes for testing truth and accuracy (procedural reliability) or (2) there are sufficient circumstantial or evidentiary guarantees that the statement is inherently trustworthy (substantive reliability).¹⁵³

As with hearsay, there may be ways of overcoming the inherent reliability dangers of introducing AI evidence. But we cannot fashion a means of doing so if those dangers are left largely unknown. There will be strong proponents of AI use given the efficiencies it provides. Proponents of AI will no doubt claim that the evidence generated are very reliable.

It is important that the criminal justice system remembers that such claims have been made before. Indeed, the history of criminal litigation is haunted by such claims. The introduction of deceptively unreliable evidence has a very troubling history in the criminal justice system:

- **Morin Inquiry:** Guy Paul Morin was wrongfully convicted for the murder of nine-year-old Christine Jessop following her October 3, 1984, disappearance after being dropped off at home by the school bus. He was exonerated in January 1995 when DNA found at the crime scene was revealed not to be his. On June 26, 1996, the Lieutenant Governor ordered that a public inquiry be conducted into the causes of Guy's wrongful conviction.

The resulting report, released in April 1998, identified numerous factors that had contributed to what was indisputably an egregious miscarriage of justice. Chief among those factors was the use of hair and fibre evidence at the Morin trial. The inquiry found this to be essentially bad science and hair microscopy evidence has been accepted as insufficiently reliable to be used in criminal cases due to its inherent frailties. The inherent problems of this evidence were compounded by the failure on the part of the forensic scientist who analyzed the hairs to adequately explain the limitations of these findings. A further factor contributing to Morin's wrongful conviction was the uncaredful reliance on jailhouse informant witnesses, who falsely testified to having heard Morin confess while he was in custody. Both the hair and fiber evidence, as well as the jailhouse informant evidence, are examples of miscarriages of justice being occasioned by the introduction of evidence thought to be reliable but proven later otherwise.¹⁵⁴

- **Goudge Inquiry:** In October of 1995 Tammy Marquardt was wrongfully convicted for the death of her first child, Kenneth, then 2½ years old. At trial she testified that she had found Kenneth tangled in the sheets of his bed in obvious distress. 911 was called but he tragically died days later. Key to her wrongful conviction was the testimony of Dr. Charles Smith. At that time, Smith was the leading expert in Canada on criminally suspicious pediatric deaths. He was the Director of Ontario Pediatric Forensic Pathology Unit at SickKids Hospital, frequently lectured on pediatric forensic pathology, including to Crown counsel and police, and was regularly called by the Crown to give pediatric forensic pathology evidence in criminal trials. Smith performed the autopsy on Kenneth. He testified for the Crown that Kenneth was likely strangled or smothered, in support of the Crown’s theory that Marquardt suffocated her son in a moment of frustration. Unsurprisingly, the jury accepted Smith’s evidence and Marquardt was convicted. She languished in prison for 13 years before growing calls of concern over Smith’s evidence in this and other case led to reviews of his cases, and Marquardt’s eventual release and exoneration.

As with the Morin case, a public inquiry was ordered – the Inquiry into Pediatric Forensic Pathology in Ontario, or “the Goudge Inquiry.” Experts reviewing the Marquardt case subsequently called Smith’s findings “illogical and completely against scientific evidence-based reasoning,” and Smith’s evidence at the Marquardt trial unprofessional and misleading. Similar investigation would come to reveal that the Marquardt case was the tip of a very large iceberg. It was determined that many of Smith’s cases featured unscientific and unsupported conclusions resulting in wrongful convictions subsequently reversed on appeal. While the Goudge Inquiry focussed on Ontario’s pediatric forensic pathology system more broadly, it reached damning conclusions about the now-disgraced Charles Smith, and the role his deceptively unreliable evidence played in many wrongful convictions.¹⁵⁵

- **Motherisk Commission:** Between 2005 and 2015, the Motherisk Laboratory at the Hospital for Sick Children in Toronto tested more than 24,000 hair samples for drugs and alcohol, from over 16,000 different individuals, for child protection purposes. A subsequent Independent Review in 2015 found that this testing was “inadequate and unreliable for use in child protection and criminal proceedings” and that the use of this evidence had “serious implications for the fairness of those proceedings.”

A key finding in the Report of the Motherisk Commission was that justice actors were relying on expert evidence even though that evidence had not been proven reliable in every case. This prompted the Commission to make recommendations about the need for regulation, accreditation standards for forensic laboratories, and generally that “partners within the legal system must take additional steps to ensure that test results are reliable before CASs and the court use them to make decisions about children and their families. The Commission also highlighted “the important role that judges play as gatekeepers” and recommended “enhanced judicial education on this role in the child protection context.”¹⁵⁶

The above examples are troubling because they illustrate injustices that have occurred where evidence was either accepted as infallible, or the tools typically employed to gauge and challenge the reliability of evidence were largely ineffective. The evidence responsible for the miscarriages of justice reviewed above were, by and large, subjected to cross-examination, expert admissibility *voir dices*, and/or judicial oversight. However, in the case of the forensic scientist in the Morin case, and Charles Smith, these tools failed to reveal the inherently frailties in their evidence – frailties that would be so clearly exposed years later.

These cases instruct that evidence which appears inherently reliable may be anything but. They also illustrate that the inherent unreliability of evidence may be highly resistant to the tools employed by courts to gauge trustworthiness and accuracy. The above examples also speak volumes about what is at stake. When evidence is introduced into a criminal trial, the impact of mistakes can be devastating – measured in years of wrongful incarceration.

These lessons must be kept front-of-mind as the criminal justice system turns to confront the admission of AI evidence at trial. As with the examples above, AI enabled evidence has been criticized as having problems impacting their reliability.

3.1.3 Limitations on Use of AI Evidence

A further problem with AI evidence is one shared by other forms of complex, or scientific evidence. AI evidence is only reliable within the bounds of its limitations – and these limitations are often difficult to spot, and even harder to articulate. Expressing the conclusions offered by PG DNA tools offers a helpful comparison in the potential pitfalls associated with relying on mathematical and algorithmic software to generate evidence admitted into court.

The usual way of analyzing DNA is via Random Match Probability (RMP). RMP measures the probability of two DNA samples matching randomly / via coincidence. But RMP requires relatively uncomplicated samples, and does not work well with multiple contributors, degraded samples or small “trace” samples. PG DNA tools were developed in an attempt to interpret complex DNA mixtures and draw out some of the inferences that may be difficult to interpret from “trace” fragmented, mixed, and/ or otherwise complex samples. But unlike RMP, PG profiles do not confirm that a particular person is a source of the DNA sample. As explained by the authors of the LCO’s *PG AI Case Study*, “PG profiles may reveal the *kind* of suspect you might be looking for” by comparing “the probability of two different hypotheses or theories of the case that seek to explain the source the DNA in the sample” then determines “which hypothesis is more probable.”¹⁵⁷

In his article *No Longer the Gold Standard: Probabilistic Genotyping is Changing the Nature of DNA Evidence in Criminal Trials*, Bess Stiffleman explains how the “Likelihood Ratio” produced by PG tools fail to answer the question at issue in a criminal trial (whether the defendant was the source of DNA in issue), and instead speaks to the “relative likelihood of two very specific hypotheses.”¹⁵⁸ Stiffleman offers the following illustrative analogy:

One could propose any two hypotheses to answer a question and theoretically come up with a likelihood ratio. Suppose you returned home to find your dog sitting next to a torn-up pillow, and feathers are everywhere. You could compare the hypothesis that your home was ransacked by burglars with the hypothesis that the pillows you bought at Ikea were designed to explode after six months. After gathering all the relevant data, like that your door was locked when you came home, and nothing else was broken, and the strength of the pillow fibres, you could come up with a likelihood ratio. Let’s assume you determine the likelihood ratio that, given the evidence, it was 10,000 times more likely that the pillow just fell apart than it was likely your home was ransacked by burglars. Neither of these hypotheses are in fact the correct explanation for the evidence before you. Of course, your dog played with your pillow like a chew toy and tore it to shreds. So, although it was 10,000 times more likely the pillow just fell apart than it was likely your home was ransacked, this doesn’t prove your pillow fell apart on its own. Both of the hypotheses were in fact incorrect.¹⁵⁹

By way of comparison, the example above illustrates how complex AI evidence is only reliable within the bounds of its limitations. And further, that explicating these bounds will be very challenging and specific to each specific AI technology or use case. As explored below, the criminal trial will face immense challenges properly identifying and articulating where those limits lie, and why reliability vanishes when those limitations are abandoned.

3.1.4 The Criminal Trial's Ability to Ensure Inherent Reliability: AI and Evidentiary Gaps in the Obtaining a search warrant

In the LCO's PG *AI Case Study*, the authors observe that "one of the benefits of litigation is that it can expose the flaws and legal uncertainties of new technologies" and that criminal and civil litigation involving AI and algorithmic tools have exposed "systemic flaws including inaccuracy, unreliability, unintended biases, opacity, lack of explainability, data illiteracy, automation bias."¹⁶⁰ This observation is likely true; however, the authors also recognize the significant flaws in using litigation as a proxy for proper AI regulation:

The common theme that emerges from all litigation is that AI and algorithmic tools were introduced prior to serious discussions about proper guardrails governing their use. Regulation by litigation is not a sufficient answer to the challenges and risks posed by these systems. Proactive regulation is required.¹⁶¹

This caution is appropriate. The Charles Smith cases, and those featuring flawed scientific testimony (as in the Morin case), vividly illustrate the limited role criminal litigation can play in exposing inherently unreliable information. Where information is complex, and assurances of reliability are coming from experts, or persons with enhanced technical knowledge, the cross-examiner is at significant disadvantage. AI evidence presents the further challenge that the evidence is not generated by an individual *per se* – you cannot cross-examine an algorithm.

This result is not unique to *Charter* litigation. Other hearings in criminal litigation, and even the substantive trial, possess similar limitations. There are two points to draw from this. First, there are a number of systemic barriers to effectively screening, regulating and challenging AI information in criminal litigation. That is the subject of the next section of this paper. Second, because of the internal and systemic challenges exposing the flaws and limitations in AI reliability, we cannot count on their being revealed in criminal litigation. This means that we cannot use litigation as the primary means of regulating AI tools. Again, as Presser and Robertson suggested, "proactive regulation is required."

3.2 Procedural Fairness Challenges

Concerns about procedural fairness speak to the various barriers and impediments criminal litigants and courts will encounter as they seek to understand and challenge the admissibility and use of AI evidence.

These can be broadly characterized as relating to various challenges:

- In obtaining disclosure related to the deployment of AI tools, and AI evidence generation;
- In properly characterizing AI evidence;
- Flowing from the forum or hearing type in which AI evidence is scrutinized; and,
- With accessibility, which broadly encapsulates practical barriers to effective AI evidence analysis. Each of these are reviewed below.

Unlike the inherent unreliability challenges reviewed above, the procedural fairness concerns examined below are aimed at ensuring criminal litigants are dealt with fairly and afforded "due process."

3.2.1 Disclosure

Critical to protecting procedural fairness is ensuring litigants, both Crown and defence, have “disclosure” related to the deployment of AI tools and evidence generation.

“Disclosure” broadly refers to that material generated in the investigation of an accused and/or anticipated to be used in an accused’s prosecution. In the case of AI evidence, “disclosure” includes knowing what technologies have been deployed in the investigation of the accused and how they work. Litigants cannot ensure AI evidence is reliable and deployed in a *Charter* compliant fashion unless the state discloses information relevant to these issues.

Having access to this information in a criminal trial is not a luxury, it is an entitlement. The right to disclosure in a criminal trial is a fundamental right and one which receives constitutional protection under section 7 of the *Charter*. In the Supreme Court’s seminal *Stinchcombe* decision, Justice Sopinka for a unanimous Court emphasized the link between disclosure and an accused’s ability to make full answer and defence, as well as that between non-disclosure and Canada’s history of wrongful convictions:

[T]here is the overriding concern that failure to disclose impedes the ability of the accused to make full answer and defence. This common law right has acquired new vigour by virtue of its inclusion in s. 7 of the Charter as one of the principles of fundamental justice. The right to make full answer and defence is one of the pillars of criminal justice on which we heavily depend to ensure that the innocent are not convicted. Recent events have demonstrated that the erosion of this right due to non-disclosure was an important factor in the conviction and incarceration of an innocent person. In the Royal Commission on the Donald Marshall, Jr., Prosecution, Vol. 1: Findings and Recommendations (1989) (the “Marshall Commission Report”), the Commissioners found that prior inconsistent statements were not disclosed to the defence. This

was an important contributing factor in the miscarriage of justice which occurred and led the Commission to state that “anything less than complete disclosure by the Crown falls short of decency and fair play.”¹⁶²

The scope and means by which an accused obtains disclosure depends on several factors, including how the material was generated, by whom, and whether that material is in the possession of the Crown. This means there is a lot at stake when it comes to how AI evidence, and the information underpinning its deployment and reliability, is treated in disclosure litigation.

Materials generated by the police, in the investigation of the accused, and related to that purpose, are considered “fruits of the investigation” and presumptively disclosable.¹⁶³ Related material that the Crown intends to rely upon as evidence in a criminal trial will always fall within the Crown’s disclosure obligations. The procedure for obtaining this material is relatively straightforward. The Crown’s duty to disclose requires no application, but rather, is triggered upon request. The duty is ongoing, and new information must be disclosed as it is received. And while the Crown’s duty is not absolute – it can invoke irrelevance or privilege to refuse disclosure – such refusals are reviewable in court, at which the Crown bears the onus of establishing the information sought is “clearly irrelevant” or privileged.¹⁶⁴

Material not forming part of the “fruits of the investigation” and not in the possession of the Crown is not presumptively disclosable. Obtaining this material to assist an accused with their defence is much more complex. The accused must ask the Crown to obtain it from the police or other third-party organization as relevant to the defence.¹⁶⁵ And if the outside organization refuses to provide the material, the accused’s only recourse is to bring an in-court, “third-party records” application for “production.” Here the defence applicant bears the onus of showing “likely relevance” and the application is more procedurally complex. It requires, for example, the record holder to be subpoenaed and that they be given standing in the hearing to challenge production.

The ultimate determination of whether production will be granted is, equally, more complex. And it allows for the balancing of competing values, including those favouring the interests of the records holder.¹⁶⁶

The use of AI evidence in criminal trials presents challenges, many of which will first surface in the course of disclosure litigation. What early, extra-territorial, and analogous jurisprudence has taught us is that the corporations providing AI investigative tools will be highly reluctant to disclose any information in a public trial that will compromise market advantage. When these interests collide with the accused's *Charter* protected right to a fair trial, some of the following problems emerge:

- The appetite for secrecy on the part of police and private corporations will mean it is not always apparent that AI technology has been used to assist a police investigation and/or underlies the evidence being used to prosecute a criminal accused. A defendant cannot request disclosure of something that s/he doesn't and cannot anticipate exists. This underscores the importance of transparency in the deployment of AI technology and the need for regulation in this area. Transparency in AI deployment cannot be a matter of discretionary decision making of individual investigative agencies.¹⁶⁷
- The defendant may have disclosure of the end product, but this is not the disclosure the defence wants, nor will it allow for the reliability of AI evidence to be meaningfully scrutinized. The disclosure that the defence needs is that providing insight into how the evidence was generated, and that bearing on its reliability.
- To the extent that defence counsel wishes to obtain disclosure of the means by which AI evidence was created – access data inputs, source code or other trade secret information – this will be met with resistance. In seeking disclosure to challenge the reliability of the AI evidence, either directly or with the assistance of experts, counsel will face claims by the third-party record holders that disclosure of material in a publicly open court proceeding violates Intellectual Property rights and does irreparable damage to market advantage.

- Where police derive investigative advantage from their use of AI technologies remaining secret, the police may resist disclosure on the basis of investigative privilege. Such has been claimed with respect to other, analogous technologies, such as those used in wiretap investigations.¹⁶⁸

AI generated evidence will be the source of much litigation. A significant portion of that will pertain to disclosure and requests for production. This is important because it is litigation around disclosure that has revealed problems with AI assisted technologies, such as that in probabilistic genotyping DNA analysis used by US forensic labs.¹⁶⁹

Few decisions will be more important to the use and reliance on AI evidence in criminal trials than how it is treated in disclosure litigation. It is imperative that AI evidence relied upon by the prosecution of an accused, at any stage, be treated as “fruits of the investigation” and “obviously relevant” so as to fall within the Crown's first party disclosure obligations. While not sufficient, this step is a necessary one to promote suitable scrutiny being applied to AI evidence by litigants and the courts.

3.2.2 Proper Characterization of AI Evidence

What tools are available to scrutinize AI generated evidence will depend significantly on how courts answer the question: what kind of evidence is this?

In a criminal trial, evidence comes in many different forms and serves varied purposes. Evidence can be live testimony from a courtroom witness, or an exhibit, like a document, media source, or other identifiable object. Evidence can speak to the facts a witness perceived or, in limited circumstances, the opinions the witness drew from them. Evidence can directly answer questions at trial (such that the only decision for the trier of fact is to accept or reject the evidence), or be part of a reasoning chain, making available conclusions by inference. Evidence can be considered to derive from inside the courtroom or be produced outside of the courtroom (i.e. “hearsay”). How AI evidence is characterized dictates the means by which it can be introduced in a criminal trial.

Problematically, AI evidence defies traditional categorization. Facial Recognition Technology (FRT) evidence helpfully illustrates this point. For instance, FRT might determine that an individual pictured in surveillance footage matches a mugshot on file. What kind of evidence is this? Is it akin to expert opinion evidence, like an opinion from an expert that an individual “matches” the qualities and characteristics of a gang member? Or is this evidence more like the conclusions of an intoxilyzer measuring the blood alcohol concentration found in an accused’s breath sample? Is the evidence something in between, like a cell phone tower analyst interpreting tower record data pertaining to the location and use of the accused’s phone? The answer has significant implications.


A helpful discussion and comparison of AI evidence in context of bail and sentencing assessments is available in LCO AI in Criminal Justice Project **Paper 3, AI and the Assessment of Risk in Bail, Sentencing, and Recidivism** at sections 3.2 and 3.4.

Expert opinion evidence, like the gang evidence reviewed above, is subject to considerable scrutiny from our courts. This has been a response to the well-recognized dangers that claimed “expert” evidence poses to the fair adjudication of criminal matters. The “danger”, broadly stated, is that “expert evidence will be misused and will distort the fact-finding process.” The concern is that “dressed up in scientific language which the jury does not easily understand and submitted through a witness of impressive antecedents, this evidence is apt to be accepted by the jury as being virtually infallible and as having more weight that it deserves.”¹⁷⁰

In response to these dangers, our courts have undergone a long and painful refinement of the test for admitting expert evidence to try and attenuate its risks. As deliberated in *White Burgess*:

Since at least the mid-1990s, the Court has responded to a number of concerns about the impact on the litigation process of expert evidence of dubious value. The jurisprudence has clarified and tightened the threshold requirements for admissibility, added new requirements in order to assure reliability, particularly of novel scientific evidence, and emphasized the important role that judges should play as “gatekeepers” to screen out proposed evidence whose value does not justify the risk of confusion, time and expense that may result from its admission.¹⁷¹

But as robust as these protections are, they are only applied where evidence is determined to constitute expert opinion evidence. Other, arguably similar evidence gets treated very differently by criminal courts. For example, the evidence of an intoxilyzers measurement of blood alcohol concentration is admitted without such scrutiny. This is because such evidence is subject to statutory preconditions set out in the Criminal Code that establish presumptive reliability and admissibility if these conditions are met. Consequently, such evidence can be adduced in documentary form without an automatic right to cross examine¹⁷² and that evidence is deemed “conclusive proof” of the individual’s blood alcohol concentration.¹⁷³ One question for this project is whether a similar approach could establish a scheme for the routine reliability and admissibility of investigative AI technologies, and which types or class of such AI technologies might be able to satisfy such a scheme.



LCO AI in Criminal Justice Project **Annex B, Project Case Studies**, includes a helpful and detailed examination of how the *Criminal Code* expedites investigations and process by establishing a regulatory scheme for intoxilyzer evidence, and compares this to potential AI evidence.

Another analogous comparison can be made with the interpretation of evidence generated by cell phone tower data, including about the likely location of a cell phone user. While this evidence has many of the inferential hallmarks of expert opinion evidence, it has not been treated as such. The Court of Appeal for Ontario has held that such witness testimony, interpreting data generated by complex technologies, is not “proffering a novel scientific behaviour or behavioural theory that was open to debate,” rather, this was “about uncontroversial facts related to the operation of cell phone networks.”¹⁷⁴

Whether AI evidence is considered potentially dangerous, novel, scientific expert opinion evidence on the one hand, or uncontroversial statements of fact on the other, will significantly impact the means used by courts to scrutinize its reliability and admit AI evidence at trial. It is imperative for courts to recognize that technologies such as breath testing machines and cell phone towers have been the subject of extensive regulation and study. This, perhaps, explains why courts have cautiously accepted their evidence with reduced scrutiny. This underscores the importance of ensuring appropriate study and regulation of AI evidence generating tools is performed.

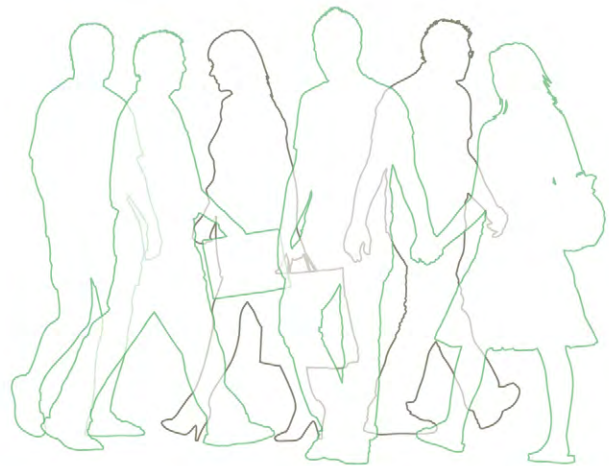
3.2.3 Hearing Type

Just as the proper characterization of AI evidence impacts its admissibility, so too does the nature of the hearing.

A criminal prosecution may culminate in a trial where the question of whether guilt has been proven beyond a reasonable doubt is ultimately answered. However, a criminal trial includes and is informed by several related hearings: hearings to determine the admissibility of evidence, to organize matters of procedure, and even to impose sentence on an accused found guilty.

Hearings and trials operate on different legal and evidential standards. There can even be differing standards across hearings. Where in the process litigants seek to introduce AI evidence will dramatically impact how and the degree to which admissibility is assessed. This suggests both practical concerns, such as how AI evidence will be adduced, and strategic concerns that could confound existing problems with complexity and delay in criminal litigation.

For instance, one might assume that the use of AI evidence to obtain a search warrant would result in a high degree of procedural scrutiny being applied to that evidence. After all, our courts have long recognized the immense intrusion upon personal privacy occasioned by the search of our private physical and digital spaces.¹⁷⁵ However, the reduced evidentiary standards that apply to search warrant applications indicate how this forum may be a poor a check and balance on police use of AI investigative tools.



Where AI tools are used to generate reasonable and probable grounds, such as where FRT is used to identify a suspect for purposes of obtaining a search warrant, the appropriate forum of litigation is a *Charter* challenge to the sufficiency of the warrant. This presents several difficulties and evidentiary gaps which illustrates both this specific example and the broader problem of relying on AI-mediated systems in a criminal proceeding. For example:

- An affiant (the person who swears the document requesting a search warrant) relying on information to obtain a search warrant (e.g., AI-mediated information) is not strictly required to investigate the reliability of the information to include it in the application;
- Information included in a police application to obtain a search warrant (the “Information to Obtain”, or ITO) can later be found to be unreliable and incorrect and this will not necessarily ground a *Charter* violation;
- The test for whether unreliable information was unreasonably relied upon by an affiant and thus must be excised (removed) from the warrant does not examine whether the information is ultimately misleading / unreliable, but rather, whether an affiant knew or ought to have known it was misleading / unreliable which, in the case of AI, suggests unearned reliance on a commonly held view that an AI system is reliable, or developer representations to that fact;
- Search warrant challenges have been found to require reduced levels of disclosure given the narrow scope of the issue being litigated, which is done on the basis of whether an issuing justice *could* have reasonably issued the warrant based on the information provided;
- Search warrant jurisprudence has constrained a *Charter* claimant’s ability to cross-examine an affiant on the contents of their ITO due to the narrow issues being litigated, namely, did the affiant knowingly include misleading or unreliable information in the search warrant application;

- The evidential standards are relaxed in *Charter* applications, and allow for police and judicial reliance on hearsay (thus potentially allowing reliance on AI-based recommendations, statements or evidence without further challenge or validation);
- Unlike in the criminal trial proper, the onus on establishing a *Charter* claim, and by extension, the unreliability of the information upon which the police relied, is on the party advancing the challenge – the defendant; and,
- *Charter* litigation is resolved on lower standards than proof beyond a reasonable doubt.

Again, this is just one example, but it is highly illustrative. For the reasons canvassed above, it is possible, if not likely, that if police included unreliable FRT information in a search warrant application that it could go effectively unchallenged in subsequent *Charter* litigation.

The broader point is that the forum in which the admissibility of AI evidence is determined greatly impacts the scrutiny applied to that evidence. AI evidence the Crown seeks to directly introduce at trial, as evidence going to the very issues the trier of fact needs to determine, may receive a higher level of scrutiny. But AI evidence being generated and introduced for other purposes could be allowed in on lesser rigorous standards, with a tremendous negative impact on procedural fairness. No assessment of the preconditions to the use and admissibility of AI evidence is complete without careful examination of the varied ways in which AI evidence can find its way into the criminal litigation process.

3.3 Accessibility Issues Impacting Procedural Fairness

Accessibility broadly refers to issues faced by individual actors in confronting AI in a criminal trial. These exist even if some of the barriers outlined above are resolved. For the purposes of this section, issues of accessibility can be helpfully understood as those relating to technical complexity / explainability, and those stemming from resource constraints and disadvantage.

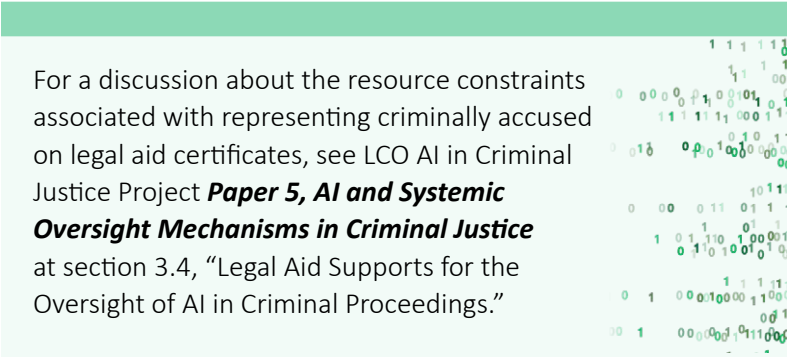
3.3.1 Technical complexity and explainability

AI is complex – in many cases too complex for lay persons to understand. The introduction of further complexity into criminal trials will be deemed unwelcome by many. Criminal trials are already lamented as too complicated. The Supreme Court recently commented on the “increasing complexity of criminal trials” that originated with the introduction of wiretap admissibility challenges in 1974, and which became supercharged with the advent of the *Charter*.¹⁷⁶ The introduction of AI-produced evidence into criminal trials will inevitably add multiple layers of technical complexity to an already over-complicated system.

For instance, AI-enabled systems may supplement or supplant human decision making, potentially skirting human checks and balances, and covertly relying on implicit biases in technological analyses. AI may also undermine human and professional accountability by encouraging people to accept findings and recommendations from “super-human systems”, without engaging a critical lens. People also lose the ability to objectively analyze the data where there is no opportunity for a human to review or challenge AI recommendations or conclusions.

This surfaces competence of counsel as a related concern. Counsel, even with the assistance of experts, may struggle to acquire the technical literacy and requisite knowledge required to litigate and challenge AI. Competence in the AI context will also involve understanding how AI works as well as its potential for bias, fallibility and to exacerbate existing inequality.

Competence imposes a burden on counsel to engage in self-study, collaboration with experts, colleagues and others, and to acquire inter-disciplinary expertise to empower more effective advocacy and the ability to educate judges and other decision makers.¹⁷⁷ Put simply, “lawyers litigating AI must become conversant with how this technology works and with the forces driving its adoption.”¹⁷⁸ But such time and training comes at a cost, particularly for independently employed defense counsel who often rely on legal aid as a significant part of their practice. This is just one of the practical resource constraints that question the role of litigation as a means to ensure AI in criminal justice is rights compliant. Several of these additional resource constraints are explored below.



For a discussion about the resource constraints associated with representing criminally accused on legal aid certificates, see LCO AI in Criminal Justice Project **Paper 5, AI and Systemic Oversight Mechanisms in Criminal Justice** at section 3.4, “Legal Aid Supports for the Oversight of AI in Criminal Proceedings.”

3.3.2 Resource Constraints and Other Disadvantages

Access to justice and concerns about the impacts of artificial intelligence, automated decision making and algorithmic technology feature prominently in the literature regarding AI. It is suggested that this is because, at its core, the concept of access to justice provides a measurement of the existence of bias and discrimination versus equality. Fundamental systemic fairness and true equality cannot be achieved absent meaningful access to justice.

Thus, access to justice is a thread which runs through many of the issues considered and law reform recommendations that have been made in relation to AI. The LCO has concluded that broad participation in the design, development and deployment of AI systems is a critical feature of access to justice. Specifically finding that it is crucial that this

participation include not only the legal, policy and technology professionals and experts but also the members of communities who are likely to be most impacted by AI technology. Ultimately, this is because “[u]nequal access to information and participation in AI and algorithmic decision-making can significantly worsen existing biases and inequality.”¹⁷⁹

Legal challenges to algorithmic decision making are time consuming, complex, and costly. Practically speaking, these barriers put such challenges well beyond the reach of many criminal defendants whether self-represented, defended by legal aid or represented by privately funded counsel. Experts are often required thus compounding the complexity, resources and time required. Funding obstacles will be further pronounced for members of low-income communities that are likely to be most impacted by AI. Canadian Legal aid plans have not yet strategized or budgeted for costs associated with challenges to AI.¹⁸⁰ However, the federal “Court Challenges Program”, Legal Aid Ontario’s public funding for public interest and test cases and “Big Case” managed budgets, and court appointed counsel or *amicus curiae* may offer some hope in a limited number of circumstances.¹⁸¹

Third party funding of litigation is available in commercial litigation¹⁸² and class action scenarios. It is contemplated that third party funding mechanisms may also be available in cases involving artificial intelligence.¹⁸³

Unless artificial intelligence is adequately regulated, access to justice may be adversely impacted by the development and deployment of tools which are racist and discriminatory in their design and consequences. Moreover, so-called “black box” AI threatens to render impenetrable the technical underpinnings upon which legal decisions and choices are founded. On the other hand, the LCO believes that access to justice will be enhanced with regulations and other instruments that support standards of procedural fairness, disclosure, notice, transparency, explainability and remedy requirements relative to artificial intelligence.¹⁸⁴

3.3.3 Appeal Rights and AI

Although much remains to be discovered about how courts will ultimately grapple with AI, it is clear that the appellate phase will be critical to shaping the ways in which AI’s impact will be felt throughout the criminal process. Appellate decisions on the issues and questions that AI poses will largely determine its permissible uses and limitations. This will either amplify or mute the effects of AI on the rights and consequences engaged. Decisions rendered on appeal will further reverberate through future trials, investigations, and other adjacent sectors of the criminal justice system. This is especially the case as AI becomes increasingly ubiquitous and the legal principles articulated by appellate courts are applied.

Rights of appeal to all levels of court are set out in the *Criminal Code Part XXI*. In the context of indictable offences and appeals to the court of appeal, when the legal criteria specified in the *Criminal Code* are met, all those convicted of an offence may appeal against conviction and / or sentence (s.675(1)) and against a verdict of not criminally responsible on account of mental disorder or unfit to stand trial (s.675(3)). The Attorney General may appeal against acquittals and verdicts of not criminally responsible, orders quashing an indictment or failing or refusing to exercise jurisdiction, orders for stays, and sentences (s.676(1)). The Attorney General may also appeal to the court of appeal against:

- A verdict that an accused is unfit to stand trial (s.676(3));
- In respect of a conviction for second degree murder against the number of years of parole ineligibility (being less than twenty-five) that has been imposed (s.676(4));
- Against a decision not to make an order under s.743.6 (applicable to sentences of two years or more) stipulating that the portion of the sentence that must be served before the offender may be released on full parole is one half of the sentence or ten years, whichever is less (s.676(5)); and
- Against a decision not to make an order under s.745.51(1) regarding consecutive periods of parole ineligibility where offender has been convicted of multiple murders (s.676(6)).

In Ontario, appeals by the Attorney General are further constrained by the policy articulated in the *Crown Prosecution Manual*, which states:

“Not every unfavourable ruling, judgment or sentence can or should be appealed. Even if the strict legal criteria for an appeal is met, a Crown appeal will not be commenced unless a thorough and considered review of the circumstances of the case, the state of the law, and the public interest has been conducted.”¹⁸⁵

Section 686 (1) Appeals against Conviction and the Curative Proviso

Section 686(1)(a) bestows the power upon the court of appeal to allow an appeal against conviction, a verdict of unfit to stand trial or not criminally responsible on account of mental disorder, where the court is of the opinion that the verdict is unreasonable or cannot be supported by the evidence, the judgment of trial court should be set aside on the ground of a wrong decision on a question of law, or on any ground that there was a miscarriage of justice. However, section 686(1)(b) proscribes that the court of appeal may dismiss the appeal, where the appeal is not decided in favour of the appellant on any ground mentioned in s. 686(1)(a); the appellant was properly convicted on part of the indictment; notwithstanding any procedural irregularity at trial, the appellant suffered no prejudice; and where as per s.686(1)(b) (iii), known as “*the curative proviso*”, notwithstanding that the court is of the opinion that on any ground mentioned in subparagraph 686(1)(a)(ii) (wrong decision on a question of law), the appeal might be decided in favour of the appellant, the court is also of the opinion that no substantial wrong or miscarriage of justice has occurred.

Many of the legal questions explored elsewhere in this paper will first be adjudicated at trial. They will then be reposed and reconsidered under appellate courts’ differing evidentiary standards and adjudicative frameworks. Some questions, including those that follow, arise as the impact of AI and the criminal law’s appellate structure intersect.

Time Limits on Appeal and Delays Due to Complexity

First, the time limits for criminal litigants to file notice of appeal are relatively brief (frequently thirty (30) days; in some cases, fifteen (15) days). Extension of time to appeal requires demonstrating a *bona fide* intention to appeal within the appeal period; that the applicant has accounted for or explained the delay and that there is merit to the proposed appeal.¹⁸⁶ It has also been recognized that an extension of time to file Notice of Appeal should be granted when it is in the interests of justice to do so.¹⁸⁷

With respect to AI, consider the following:

- How will appellate courts exercise their discretion to extend time to file notice of appeal when the impacts of AI upon the rights and consequences to the litigants may not immediately be known? Cases including *Garland* and *Hamilton* would suggest that an extension of time will be granted, but this assumes that the litigants can effectively articulate the basis for the delay and that the appellate court considering the extension understands the reasons given and the complexity of AI sufficiently well to understand why the basis for appeal did not crystalize until after the notice period had expired.
- Will the proliferation of AI require modification to the rules and formally extending the time to file notice of appeal for all concerned? Or should time to file be expanded only for self-represented and vulnerable accused? If provisions regarding time to file notice are not formally extended, should extensions be granted as a matter of course where AI is implicated in the failure to file on time? If so, how will the requisite involvement of AI be measured and defined? How will such a framework be managed as AI becomes ubiquitous?
- Will the legal, social and regulatory importance of appellate guidance on issues regarding AI’s impact alter the calculation around the general rule governing the finality of trial decisions as a manifestation of the broader societal interests that consider more than an accused’s interest in challenging a decision at trial?¹⁸⁸

AI enabled products also promise efficiencies and claim to expedite the time necessary to identify alleged legal errors, produce and review transcripts, file Notices of Appeal and prepare factums. Yet, our experience with technology has shown that complexities injected into pre-existing systems, the challenges of change management, and the time required for human players to adapt processes and develop new skills serve to counteract and slow gains.

- Can an AI infused criminal justice system give effect to the *R. v. Jordan*¹⁸⁹ definition of trial within a reasonable time?
- Will the complexity of the technology and the uncertainty of the courts' ultimate stance on AI issues, protract litigation at trial, enhance backlog, and result in proliferation of appeals?
- Will AI enhance or prolong time to disposition on appeal?

The Preservation of Evidence and Fresh Evidence in Light of Evolving AI Systems

A second concern related to how AI systems evolve, datasets change, and machine learning continues. This raises significant concerns for AI on appeal. For instance:

- How will exhibits be filed at trial and preserved, pending adjudication on appeal? How will “point in time” versions of an AI system or its training data be preserved from the time it was used to the time it is (or could be) reviewed?
- What adaptations to the core concepts of an “exhibit” and “the record” may be required?
- Will the test for “fresh evidence” on appeal need to be altered to account for the practical reality that answers offered by AI may change over time?

At present, fresh evidence on appeal is admissible if:

- 1) the party adducing it was duly diligent regarding its availability at trial / it was not available at trial;
- 2) it is relevant (dispositive or potentially dispositive of an issue on appeal);
- 3) it is credible / reasonably capable of belief;

4) believed, it could reasonably, when taken with the other evidence, have affected the result at trial. The due diligence component of the test is not mandatory in the criminal law context, but the remaining three criteria must be met.¹⁹⁰

Pursuant to s.683(1) of the Criminal Code an appellate court may admit fresh evidence on appeal where it is in the interests of justice to do so:

The “interests of justice” control the admission of all evidence offered on appeal. That phrase signals a broad discretion to admit evidence following a context-sensitive inquiry into the totality of the circumstances.¹⁹¹

Thus, in criminal cases, it is recognized that it is not ordinarily in the interests of justice to maintain the verdict simply because an appellant failed to exercise due diligence.¹⁹²

Rules concerning sources and types of evidence are more flexible in relation to sentencing. But the criteria for admitting fresh evidence on appeal are the same regardless of whether the appeal relates to a verdict or sentence. This standard is important because the integrity of the criminal process and the role of appeal courts could be jeopardized by the routine admission of fresh evidence on appeal.¹⁹³

The ever-evolving nature of artificial intelligence seems certain to increase the tension that already exists at the appellate level around maintaining the finality of trial decisions versus admitting fresh evidence on appeal when that evidence has the potential to undermine the verdict's validity. Will this tension be left to appellate courts and the development of common law jurisprudence to resolve? Or will legislative and regulatory measures (short of outright prohibition) be introduced to address the conflict between the above legal principles when an underlying data set or algorithm changes, and relevant AI behaviour and outcomes are different following trial.

The Accused's Right to be Present at Trial

A third concern with AI on appeal questions whether the introduction of evidence premised upon “black box” systems may amount to a violation of the accused’s right to be present at his/her trial.

This argument has been cited as a basis for prohibiting or limiting use of AI in the criminal law context. In the absence of an outright prohibition, consider the potential success of this argument on appeal. Will black box algorithms be deemed to amount to “some loss of jurisdiction” that is “tolerable in the absence of prejudice”? Will the “exclusion” be deemed inadvertent exclusion of the accused from unimportant parts of the trial?¹⁹⁴ Or will the infringement of the accused’s right to be present justify exclusion of such evidence or, in the clearest of cases, a stay of proceedings? If so, under what section of the *Charter* will the claim for a remedy lie? Section 7 (right to life, liberty and security of the person and the right not to be deprived thereof except in accordance with the principles of fundamental justice)? Section 11(d) (to be presumed innocent until proven guilty according to law in a fair and public hearing by an independent and impartial tribunal)?

Appellate Legal Standards and Grounds of Appeal

A fourth concern with AI on appeal questions how the differing legal standards on appeal may serve to mitigate or exacerbate the risks posed by AI.

A conviction at trial requires proof beyond a reasonable doubt. An accused’s appeal against conviction may be allowed if the verdict was unreasonable, the trial judge made an error of law (provided the s.686(1)(b)(iii) curative proviso does not apply / the verdict would not have been the same) or if there was a miscarriage of justice (s. 686 of the Criminal Code).

Trial judges acting as gatekeepers are empowered to exclude evidence where its probative value is outweighed by its prejudicial effect.

Many would suggest that this gatekeeper power combined with the appellate courts’ ability to grant relief in the above circumstances is sufficient to protect accused persons against the risks of AI evidence and their potential to contribute to a wrongful conviction. Others fear that the hidden bias, black box algorithms, and potential for triers to place undue reliance on the “science” and supposed objectivity of artificial intelligence, will overwhelm the traditional safeguards that exist to prevent unjust outcomes. All the above may substantially enhance the challenge of establishing an unreasonable verdict when the verdict was premised upon a body of evidence that included AI.

In addition to these concerns, there are additional grounds of appeal that may be applicable to challenge the admission of AI at trial. These are set out below. Consider the challenges of establishing each ground of appeal as per the test/s articulated. Also consider whether those challenges could be overcome by a self-represented or vulnerable accused.

- **Ineffective assistance of counsel:** Ineffective assistance of counsel is a principle of fundamental justice, premised upon the common law, s. 650(3) of the Criminal Code, and ss. 7 and 11(d) of the Charter.¹⁹⁵ Proof requires the appellant to establish three things on a balance of probabilities:
 1. the *factual component* on which the claim is grounded
 2. the *performance component* / the incompetence of the representation
 3. the *prejudice component* / a miscarriage of justice as a result of the representation by trial counsel.¹⁹⁶

When proved, the conviction will be quashed and a new trial ordered pursuant to s.686(1)(a)(iii) of the Criminal Code.¹⁹⁷

- **Misapprehension of the evidence:**

Misapprehension of the evidence is determined as per *R. v. Theriault*¹⁹⁸ as follows:

1. Court determines the reasonableness of the verdict (if the verdict is unreasonable, the conviction cannot be sustained).
2. If the verdict is not unreasonable, then court determines whether there was a misapprehension of evidence that occasioned a miscarriage of justice.¹⁹⁹
3. A miscarriage of justice will render a trial unfair where the trial judge “is mistaken as to the substance of material parts of the evidence and those errors play an essential part in the reasoning process resulting in a conviction.”²⁰⁰
4. If no miscarriage of justice, the court must then consider whether the misapprehension rests on an error of law.²⁰¹ If so, an appellate court may nonetheless dismiss the appeal if the Crown shows that no substantial wrong or miscarriage of justice occurred.²⁰²

In relation to AI, there are significant concerns that technological deference to presumed capable artificially “intelligent” systems may color the assessment of a misapprehension of evidence, miscarriage of justice, or an error of law.

- **Unreasonable Verdict:** Whether a verdict is unreasonable is a question of law²⁰³ answered by determining “whether the verdict is one that a properly instructed jury acting judicially, could reasonably have rendered”²⁰⁴ or resulted from an “irrational reasoning process.”²⁰⁵ In both circumstances, the appellate court must substitute an acquittal. Where the verdict is unreasonable due to a logical flaw, the remedy is a new trial.²⁰⁶

- **Sentence appeals:** Sentence appeals in indictable matters are also governed by Part XXI of the Criminal Code at s. 687(1).²⁰⁷ The standard of appellate review requires that absent an error in principle, failure to consider a relevant factor or an overemphasis of the appropriate factors, a court of appeal should only intervene to vary a sentence imposed at trial if the sentence imposed at trial is demonstrably unfit.²⁰⁸

Consider how concepts of parity of sentence and the standard of appellate review on sentence appeals might serve as barriers to an accused whose sentence has been unjustly impacted by an AI risk assessment tool premised upon a biased data? If the accused’s conviction is just and the sentence is on par with that dispensed in like cases with like offenders, is a remedy required? If so, what remedy is appropriate 1) for the individual accused in the case under appeal, and 2) to address use of the biased risk assessment tool?





4. Next Steps and Consultations

4.1 Consultation Process

The LCO's consultation process starts with the release of this Issues Paper.

The LCO wants to hear from a broad range of stakeholders including lawyers and legal organizations, NGOs, industry representatives, academics, government and justice system leaders, and individual Ontarians interested in the operation of the criminal justice system.

The LCO will be organizing several consultation processes over the next several months. The LCO is strongly committed to partnering with interested organizations and stakeholders to develop consultation initiatives. Individuals or organizations interested in working with the LCO are encouraged to contact our Project Lead.

The LCO also encourages written submissions, which can be sent to the LCO's general email address at LawCommission@lco-cdo.org.

The deadline for written submissions is **July 7, 2025**.

The LCO is committed to sharing ideas and building constructive dialogue. Accordingly, the LCO expects to post written submissions on our project webpage, subject to limited exceptions. Individuals or organizations wishing to provide a written submission may want to contact the LCO for further information prior to their submission.

Project Lead and Contacts

The LCO's Project Lead is Ryan Fritsch. Ryan can be contacted at rfritsch@lco-cdo.org.

The LCO can also be contacted at:

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5. Endnotes

- 1 *Canadian Charter of Rights and Freedoms*, Part I of the *Constitution Act*, 1982, being Schedule B to the *Canada Act 1982* (UK) (1982, c 11), online: <https://www.laws-lois.justice.gc.ca/eng/Const/page-12.html>; *Canada Evidence Act* (RSC 1985, c. C-5), online: <https://laws-lois.justice.gc.ca/eng/acts/c-5/>; *Criminal Code* (RSC 1985, c. C-46), online: <https://laws-lois.justice.gc.ca/eng/acts/C-46/>; and *Courts of Justice Act* (RSO 1990, c. C.43), online: <https://www.ontario.ca/laws/statute/90c43/v3>.
- 2 See for example: *R. v. J.L.J.* (2000 SCC 51).
- 3 See for example *R. v. Dunstan* (2018 ONSC 4153); *U.S. v. Sterlingov* (2024 WL 860983).
- 4 *R. v. Nikolovski* ([1996] 3 SCR 1197) at para 13.
- 5 *R. v. Oakes* ([1986] 1 SCR 103).
- 6 Law Commission of Ontario, *AI Case Study: Probabilistic Genotyping DNA Tools in Canadian Criminal Courts* (2021) at 7, online: <https://www.lco-cdo.org/wp-content/uploads/2021/06/AI-PG-Case-Study-Final-EN-June-2021-2.pdf>.
- 7 Law Commission of Ontario, *AI Case Study: Probabilistic Genotyping DNA Tools in Canadian Criminal Courts* (2021) at 7, online: <https://www.lco-cdo.org/wp-content/uploads/2021/06/AI-PG-Case-Study-Final-EN-June-2021-2.pdf>.
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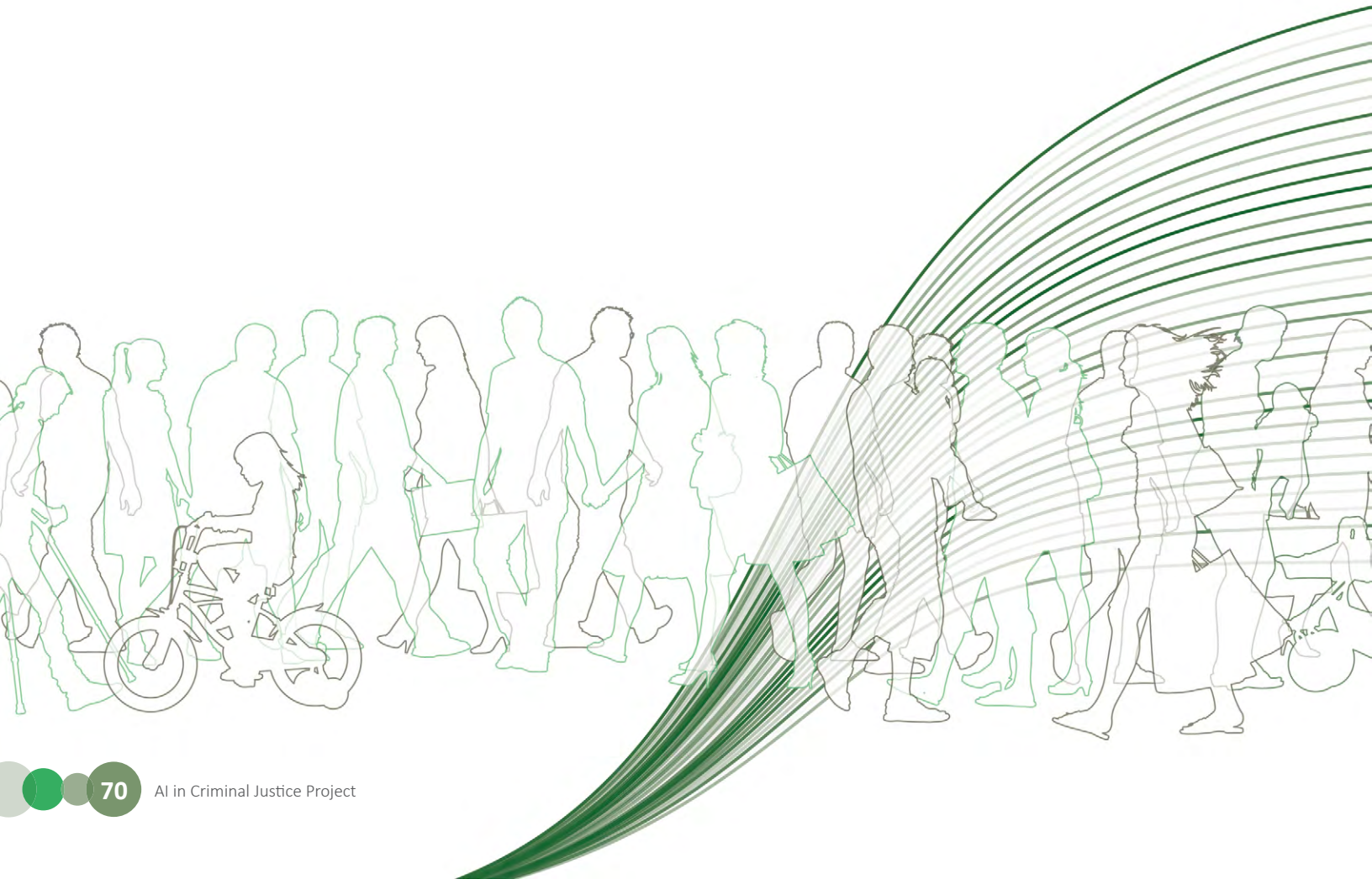
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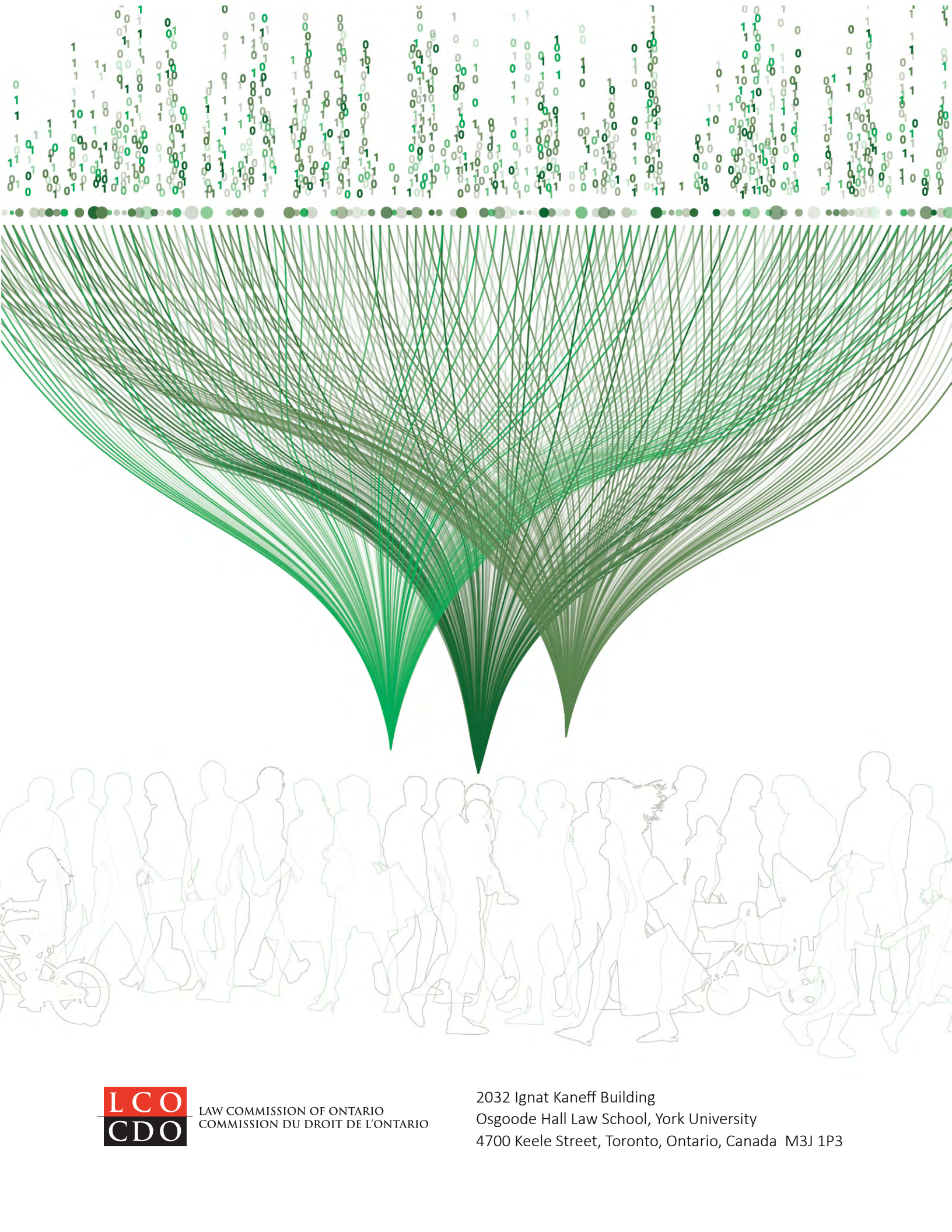
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- 187 See *R. v. Garland* (2008 ONCA 134) at para 3.
- 188 *R. v. Reeve* (2008 ONCA 340) at para 64; *R v Hamilton*; *R. v. Rhingo* ([1997] OJ no 1110) at para 34.
- 189 *R. v. Jordan* (2016 SCC 27).
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- 197 *R. v. Joanisse* ([1995] OJ no 2883 (ONCA)) at para 65; leave to appeal refused ([1996] SCCA no 347).
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- 199 *R. v. Morrissey* ((1995) 97 CCC (3d) 193 (ONCA) at 219; *R. v. Stennett* (2021 ONCA 258) at para 51.
- 200 *R. v. Morrissey* ((1995) 97 CCC (3d) 193 (ONCA) at p 221; *R. v. Lohrer* (2004 SCC 80) at paras 2, 8.
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- 203 *R. v. RP* (2012 SCC 22) at para 10.
- 204 *R. v. Biniaris* (2000 SCC 15) at para 36.
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- 207 This section reads as follows: “Powers of Court of Appeal against sentence. 687 (1) Where an appeal is taken against sentence, the court of appeal shall, unless the sentence is one fixed by law, consider the fitness of the sentence appealed against, and may on such evidence, if any, as it thinks fit to require or to receive,
a) vary the sentence within the limits prescribed by law for the offence of which the accused was convicted; or
b) dismiss the appeal.
Effect of judgment.
(2) A judgment of a court of appeal that varies the sentence of an accused who was convicted has the same force and effect as if it were a sentence passed by the trial court.R.S., c. C-34, s. 614
- 208 *R. v. CAM* ([1996] 1 SCR 500) paras 88-96, in particular para 89, citing *R. v. Shropshire* ([1995] 4 SCR 227) at para 46.





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