



Action Committee on Modernizing Court Operations

DEMYSTIFYING ARTIFICIAL INTELLIGENCE IN COURT PROCESSES

A Statement from the Action Committee

Our Committee supports Canada's courts in their modernization efforts. It provides guidance for addressing challenges, and highlights opportunities and innovative practices to modernize court operations and improve access to justice for court users.

1. CONTEXT AND BACKGROUND

The field of artificial intelligence (AI) is drawing increasing attention from a wide variety of sectors, including the justice system in general and courts in particular. Courts might use AI tools, for example, to enhance administrative processes such as case flow management, while both courts and court users might use AI tools to assist with legal research, analysis, drafting, or translation. In some cases, courts might use existing AI tools without modification, or else they may seek to develop their own tools or adapt off the shelf products to meet their unique needs.

This document seeks to promote a common understanding of key terms and basic concepts surrounding AI. It covers general ways AI may be used in the court context, includes basic definitions, and briefly outlines specific tools that courts may have heard of. While the primary audience of this guidance is judges and court administrators, court users may also find the information that it contains useful.

The Action Committee has also developed companion guidance that further explores both:

- [The use of AI by courts to enhance court operations](#). This guidance focuses on administrative uses as well as legal research and analysis, as opposed to AI that focuses on decision-making or matters related to evidence, e-discovery, or substantive law. In its [recent guidance on AI](#), the Canadian Judicial Council has indicated that judges' decision-making authority should never be delegated to AI.
- [The use of AI by court users to help them participate in court proceedings](#), such as, for example, in drafting submissions.

"Courts", in this context, includes both their judicial and administrative components. "Court users" include litigants and counsel, and may include others engaging directly with the courts, such as witnesses or support workers.

2. WHAT IS AI

AI is a general term that includes a variety of rapidly evolving technologies and tools. These tools are often misunderstood or inaccurately compared or conflated with each other, even though their functionalities, and the related opportunities and risks associated with their use, may vary widely. As such, a common foundation can help to promote clear communication and ensure that AI is used by courts and court users in ways that enhance, rather than impede, access to justice, procedural fairness, and the accuracy of information before the court. For example, court-issued guidance is most effective and more likely to foster compliance where its scope and applicability is unambiguous.

For the purposes of this document, **artificial intelligence (AI)** is a broad term referring to digital technology that performs tasks typically associated with human brainpower, including understanding and interpreting language, learning, artistic creation, and abstract problem solving. AI itself comprises multiple subfields, with further specialization within each. By nature, AI evolves both because of, and in response to, developments within these subfields.



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3. AI IN THE COURT CONTEXT

The following applications of AI may be particularly relevant to courts, court users, or both. The relative benefits, challenges and risks associated with their use will be context-specific, and should be considered on a case-by-case basis (see the companion publications [Use of AI by Courts to Enhance Court Operations](#) and [Use of AI by Court Users to Help Them Participate in Court Proceedings](#)). However, AI tools that were developed with legal experts and that use official legal information – such as legislation and case law – as training data are generally more reliable than generic ones.

- **Legal Research and Document Review:** AI can streamline legal research and document review – an often voluminous, detailed, and time-consuming task.
 - Courts and court users might use such tools, for example, to find precedents, compare documents to identify inconsistencies or duplicates, or organize large volumes of material.
- **Legal Analysis:** AI can assist with legal analysis or with determining the application of various sources of law to a specific set of facts. This may, but need not necessarily, build upon AI-produced legal research or document review.
 - Courts might use such tools to gather context to inform decisions or to produce summaries of court decisions for online publication.
 - Court users might use such AI tools to prepare arguments and craft submissions.
- **Translation:** Translation AI can be used to reduce access to justice challenges raised by language barriers. This can help lawyers and their clients interact or assist those who speak a different language to better understand court-produced content such as websites, communications, and caselaw.
 - Both courts and court users might use such tools.
- **Transcription:** AI can be used to transcribe information from audio to text. This could support internal operations by providing details of meetings and informal discussions, or could be used to quickly produce unofficial transcripts of court processes.
 - Courts might use such tools to increase efficiency and accuracy and reduce delays in their processes.
- **Substantive assistance to court staff:** AI can be used to assist court staff in better serving clients by facilitating information retrieval.
 - Courts might use AI to quickly identify appropriate sources and content. This could be especially useful for staff facing novel or complex issues. Using AI in this context would only be a starting point, though, as staff would be responsible for competent human oversight. Courts should consider the risk that information provided by AI might be used as legal advice without appropriate safeguards.
 - Courts might also use AI to streamline the training process for court staff, minimizing delays in acquiring basic knowledge and costs associated with new hires.
- **Case Flow Management:** AI can streamline case flow management processes by automating tasks such as docketing, scheduling, and document management.



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- Courts might use such tools to streamline their processes.
- **Predictive Analytics:** AI can enhance predictive analytics for the purposes of forecasting, resource allocation, and pattern identification.
 - Both courts and court users might use such tools. For example, courts and counsel alike can use trends identified in cases, such as timing, duration, and cost, to better allocate resources.
- **Legal Triaging and Assistance:** Some AI-powered tools, including chatbots designed by legal experts or associations, can provide legal information, guidance, and assistance to court users. These tools could also be leveraged to triage legal inquiries, provide tailored advice, and connect users with relevant resources and legal support services. Chatbots and their functionalities are described further in section 4.1.
 - Courts could host such chatbots on their websites to respond to basic questions and orient court users to appropriate resources.
 - Counsel could offer a similar service to clients or self-represented litigants.
 - Court users may also use chatbots to gather legal information. The risk of relying on inaccurate or inappropriate information may be reduced if they use relevant tools originating from reputable sources like law societies or legal aid organizations.
- **Online Dispute Resolution and Other Alternative Dispute Resolution:** AI-powered dispute resolution platforms can facilitate online mediation and arbitration processes outside of traditional court settings. Virtual mediation tools equipped with AI capabilities can help parties identify common ground, generate settlement proposals, and reach mutually acceptable agreements.
 - Both courts and court users might use such tools.

4. CHATGPT AND BEYOND – AI TOOLS COURTS MAY HAVE HEARD OF

The following tools help to communicate through language, predominantly in written text, and may be relevant to the court context. There is some overlap in what they offer.

GPT – a Foundational Concept: acronym of “Generative Pretrained Transformer”, these are a type of model initially introduced by the company OpenAI. Until May 2024, they were based only on Large Language Models, but they now also include Large Multimodal Models – both models are defined in section 5.2.1.

4.1 Chatbots

Chatbots are primarily used to respond to questions, summarize information, and draft new material. In the court context, uses might inform legal research, document review, and legal analysis. Some notable examples include:

- **ChatGPT:** one of the most well-known chatbots, it employs GPT to respond to prompts in human-like language. Launched by OpenAI in November 2022, it is widely used and has quickly come to dominate AI-related discourse. In addition to text, it can also create novel images, video, and audio.



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- **Google Gemini:** formerly called “Bard”, Google’s answer to ChatGPT was launched in March 2023. Its integration with the Google search engine allows Gemini to provide users with links to Google Search results, aiding in fact-checking. Its free version can create images.
- **Microsoft Copilot:** designed for integration in many key elements of the Microsoft suite of tools (Bing, Windows), it currently leverages OpenAI’s GPT technology, though this tool can be distinguished in a variety of ways. For example, Copilot allows users to specify that output be “More Creative”, “More Balanced”, or “More Precise”. Integration with Bing enables it to include web links for fact-checking

4.2 Writing assistance

AI tools that assist with writing can be used to draft text, refine or translate existing material (human- or AI- produced), or refine tone to match the type of document, for example, a letter or court submissions. These applications can also be used or combined for multiple purposes. For example, counsel might use such tools to translate contextual information to their preferred language, then to help them create court documents.

- **Grammarly:** beyond checking for spelling and grammar, it can use generative AI (GenAI – described in section 5: Basic Definitions) to draft text according to different contexts, from emails to reports and other substantive documents. It seeks to create clear and compelling content, responsive to a desired tone, in addition to promoting accuracy.
- **DeepL:** known primarily for its AI translation tool of the same name, DeepL launched DeepL Write in early 2023 as an alternative to Grammarly. Translations are produced using neural machine translation, which tends to be more human-like than strict machine translation. Both machine translation and neural machine translation (NMT) are defined in section 5.3.

5. BASIC DEFINITIONS

Here are some definitions for common terms in the field of AI, consolidated from a variety of sources. Just as developments in the applications and functionalities of AI will continue to evolve, so will definitions.

5.1 Core concepts

5.1.1 Foundational definitions

Digital Technologies: broad term referring to electronic tools which generate, store, or process data. “Digital” means that they rely on binary numbers to function. They can be tangible, like computers, or less tangible, like the internet. Not all digital technologies involve AI, but all AI is a form of digital technology.

Lifecycle of AI: includes design, development, deployment, decommissioning, and data handling. The term often refers to the entire existence of an AI tool

- from design, or the earliest generation of ideas
- through deployment, or how it functions in practice once operational, including ongoing monitoring
- to decommissioning, or how it is handled when it is no longer of use

Data handling is a relevant concern throughout all stages.

Algorithm: instructions for processing inputs (instructions and data) to yield an output. In the context of AI, this refers to the structure of how AI responds to information. While typically associated with computer



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science, AI, and related disciplines, algorithms are fundamentally step-by-step instructions, and are used in many different contexts.

Predictive Analytics: statistical technique that forecasts future patterns or events by analyzing existing data. For example, a retailer could analyze purchasing trends to plan inventory. AI can be – but is not always – integrated with the data collection, statistical analysis, and modeling elements that inform predictive analytics

5.1.2 General approaches to the use of AI

Ethical AI: the development and use of AI technologies in a manner that is responsible, fair, accountable, transparent, and respects fundamental human rights and values.

Competent human oversight: also referred to as “human in the loop”, this is an approach to AI that recognizes the limitations of the field and the importance of human involvement to mitigate risks. While discussions often focus on design and deployment, this is a relevant consideration throughout the lifecycle of AI. The extent of human oversight needed is context-dependent and informed by factors such as complexity, risks, and goals associated with a particular initiative or application, as well as the level of subject-matter expertise of the user and the nature of the tool’s training and input data.

5.1.3 Key challenges associated with the use of AI

The following challenges relate to AI generally; for more detail on challenges specific to AI in the court context, please refer to the companion publications [Use of Artificial Intelligence by Courts to Enhance Court Operations](#) and [Use of Artificial Intelligence by Court Users to Help Them Participate in Court Proceedings](#). The examples listed are not exhaustive, and new challenges will arise as AI continues to evolve.

Algorithmic Bias: the presence of systematic discrimination in the results produced by AI, often due to skewed training data or flaws in the algorithm’s design. Even where equity is taken into account – whether when collecting and handling data, or designing an AI tool itself – there remains a very real risk that bias will be unconsciously incorporated at these fundamental stages. A careful and cautious approach is particularly critical to avoid perpetuating harm to marginalized communities. For example, AI that fails to take into account the realities of Indigenous contexts, including the impact of colonialism on legal source materials, can reproduce the discrimination contained in these sources.

Black Box: AI that operates through processes that are not readily explainable. In the context of AI, it usually refers to AI models that are so complex that humans cannot fully understand or discern how they operate. In some cases, the term “black box” is also used to refer to systems that are kept secret because they are proprietary.

Hallucinations: a phenomenon where large language models (LLMs) fabricate output. The source data, training method, and prompt used can all contribute to hallucination, although the precise source may not always be apparent.

Inadvertent use of AI: AI is increasingly being integrated to augment common tools such as search engines and videoconference platforms. Users may be unaware that these tools are using AI or, even if they are aware, unable to opt out while using these tools. Users should try to ensure that they are aware of AI assistance included in tools that are not explicitly characterized as such.

5.2 Key subfields of AI

Machine Learning (ML): the iterative process of AI adapting through repetition, mirroring how humans learn. All machine learning is AI, but not all AI is informed by machine learning. Machine learning can



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make AI tools more responsive and accurate, since previous actions will inform subsequent output. Depending on the extent of human intervention, machine learning is referred to as supervised, unsupervised, or semi-supervised. Simpler machine learning often relies on human intervention to a greater extent than more advanced systems such as neural networks (NN) and deep learning (DL). Human intervention could include providing the tool with labeled datasets, or pairing information with context to assist the AI tool to function accurately.

Neural Networks (NN): a series of algorithms designed to mirror the structure and function of a human brain. This technology is modeled on how neurons communicate with one another. Neural networks are particularly useful for handling complex, non-linear data, and can therefore capture intricacies in the interaction between data that a traditional, linear model would omit. For example, neural networks can consider the semantic meaning of words and sentences.

Deep Learning (DL): “Deep” refers to complex neural networks with many layers of neurons (“hidden layers”) between input and output. Deep learning has gained prominence because of its ability to learn complicated conceptual relationships after being trained on large volumes of data.

5.2.1 AI subfields informed by machine learning

Natural Language Processing (NLP): focuses on enabling digital technologies to understand, interpret, and generate human-like language. NLP is the foundation for Large Language Models (LLM) and GenAI.

Generative AI (GenAI): enables users to generate new content by using various technologies including predictive algorithms, Large Language Models, and Large Multimodal Models (LMM), to produce text, images, audio, or other types of media. Generated content typically mimics that which would be created by a human, such as narrative text, visual art, or audio.

Prompt: the instructions provided to GenAI to produce content. Prompts can take various forms, such as questions, statements, or commands. Prompt engineering is a developing specialty, focused on crafting the instructions required for a particular tool to provide the desired outcome. As use of GenAI becomes more widespread, knowledge of prompt engineering will become relevant to those seeking to make best use of the technology. Requests associated with other types of AI systems are typically referred to as input or as a query, rather than prompts.

Large Language Models (LLM): focus on language and are trained on huge volumes of data to understand, interpret, and produce textual output like a human. This ability has created an inaccurate perception that Large Language Models “think” as humans do. In reality, they predict the next best word or part of a word in a sentence, based on their training data, with output often approximating human-produced results. GenAI chatbots generally use Large Language Models to generate responses to prompts.

Large Multimodal Models (LMM): whereas Large Language Models are text-based, Large Multimodal Models are trained on vast amounts of a variety of data (text, images without text descriptions, code, audio, video, etc.). The most recent versions of some chatbots integrate Large Multimodal Models.

5.3 Specific applications of AI: examples

Chatbot: a computer program that simulates human-to-human conversation with a user, verbally or in writing. Most modern chatbots use AI.

Machine Translation (MT): automatic translation using a computer. This can occur either by using manually crafted rules or statistical systems that identify patterns based on a word or phrase, relying on parallel language versions of the same texts.



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Neural Machine Translation (NMT): a more advanced form of automatic translation that uses neural networks, it is increasingly favoured over machine translation since it produces more natural, human-like results.