The Use of
Generative AI
By
Defence Lawyers

- Capability & Culpability -

This remarkable webinar was sponsored by the Canadian Defence Lawyers and FOIL, with talks presented by Professor Richard Susskind (OBE),KC (Hon), the world's most cited author on the future of legal services and President of the Society for Computers and Law, and Maura R. Grossman J.D., Ph.D., Research Professor at the University of Waterloo and Adjunct Professor at Osgoode Hall Law School, and a globally recognized expert on electronic discovery and AI.

Both speakers explored the opportunities and challenges presented to defence lawyers by generative AI.

This bulletin presents a summary of the key issues and points contained in this fascinating webinar presented by two of the world's leading authorities on the subject, which was described by one of them as:

"the most fundamental change to humanity since the advent of the printing press."

Professor Grossman provided a very comprehensive set of slides to accompany her talk, and content from those have been incorporated within the body of this summary.

Publicly, two distinct views have emerged: Some say what's the big deal, while others envisage a very dystopian future. The truth is that AI falls somewhere in the middle and neither one of these two extremes is correct, because AI is simply a tool that can be used in both positive and negative ways.

WHAT IS "ARTIFICIAL INTELLIGENCE"?

The term "AI" was first used at a conference at Dartmouth College in 1956 to describe computers doing intelligent things once thought to be the sole province of humans.

Often simply called "software" after we get used to the it, AI is different from automation, which does not necessarily involve a cognitive component, and robotics, which involves hardware.

AI generally encompasses algorithms, machine learning, and/or natural language processing ("NLP").

IS MACHINE LEARNING AN EMERGING TECHNOLOGY?

No, this technology has been in development for many years, but today we have much more computing power, processing speed, and data than ever before, and the costs of storage have also come down dramatically, making AI far more cost-effective and readily available to the masses. This has lowered barriers to access or entry. AI—such as ChatGPT—is now easily accessible by the public.

There are essentially two different types of AI, firstly, AI which enables a computer to be better in one specific task or narrow field, for example, chess, or electronic discovery, where AI is more effective than humans and secondly AI whereby the computer will be able to do many tasks better than a human.

HOW SUPERVISED MACHINE LEARNING, DEEP LEARNING, AND NATURAL LANGUAGE PROCESSING WORK

Supervised machine learning systems infer mathematical functions from old data that has been labelled by a human, to help make educated guesses about new data that is unlabelled.

Reinforcement learning allows one to address more dynamic problems, using a combination of e*xploration* – learning about new data – and *exploitation* – use of the existing or old data.

Deep learning uses multiple layers algorithms (i.e., neural networks) to transform complex input into mathematical representations. Information from each layer is combined at the next layer and a prediction is made at the output layer. This allows for complex tasks like determining what is in a photograph.

Natural Language Processing ("NLP") involves contextualising words and deriving their meaning to build a model to understand or produce language.

WHAT IS "GENERATIVE Al" ("GEN Al" OR "GAl")?

A subset of Al that uses training on massive data sources – primarily from the Internet – to generate new content. It can converse, replicate specific styles, and excels at creative tasks and synthesising or summarising content.

Gen Al falls under the broad categories of machine learning and natural language processing. It leverages neural networks (i.e., deep learning) to analyse the underlying patterns and structures of data, enabling it to predict what should come next, or to generate fresh and unique content.

DEVELOPMENT OF GEN Al: 2010 - 2022

In 2014, Generative Adversarial Networks ("GANs") took a huge leap forward in their ability to create authentic-looking content.

GANs introduced a new way for algorithms to learn: One algorithm (the generative network) creates content, and the other algorithm (the discriminative network) evaluates it against real data in an effort to distinguish them. This approach creates more and more realistic-looking content (and explains why detection of Gen Al content is so difficult). GANs revolutionised image, audio, and video generation.

In 2017, Google introduced the transformer architecture, a significant breakthrough in processing natural language, which no longer required pre-labelled training data and allowed processing to occur in parallel (which is much faster).

Another major change introduced with GPT-3 was the use of reinforcement learning, in which external (i.e., human) feedback was used to modify and improve the output of the model.

WHAT KINDS OF PROBLEMS CAN AI SOLVE?

What can AI and generative AI do?

AI can classify and predict, it can rank, and it can compute probabilities, and create content, e.g., by conversing and/or translating.

AI TODAY: THE SKY'S THE LIMIT

Despite current uncertainties, one day, it may be that *not* using AI will be viewed as professional malpractice rather than the other way round.

AI has huge benefits and ramifications for many professions. Particularly promising are applications in healthcare and law. Within the litigation context, AI has already been used for litigation forecasting, claims analysis, and document review and discovery.

Generative AI will, it is believed, assist the legal profession, and enable many more people to have access to justice.

EXAMPLES OF THE USE OF AI IN THE LEGAL PROFESSION

- ➢ Technology-assisted review ("TAR") and other analytics in eDiscovery
- ➢ M&A due diligence / contract analysis and review.
- ➢ Public disclosure analytics.
- ➢ Legal research / summarization / drafting of memos and initial pleadings.
- ➢ Analysis of briefs for missing citations.
- ➢ Predictions about opposing counsel and courts.
- ➢ Litigation outcome forecasting for financing purposes.
- ➢ Jury pool evaluation.
- ➢ Analysis of claims and automated forms completion.
- ➢ Billing.

APPLICATIONS OF GEN AI IN THE LEGAL PROFESSION TODAY

- ➢ Enhanced delivery of legal services by providing lawyers with tools to increase their productivity.
- ➢ Enhanced access to justice by providing tools to people unable to afford legal services or navigate the legal system.
- ➢ Gen AI can analyse and summarise lengthy documents, e.g., complex statutes or regulatory codes; witness transcripts to identify key people, events, or inconsistencies.
- ➢ AI can help brainstorm ideas and marketing, create outlines and draft documents and presentations.

However, AI cannot replace a lawyer's nor a judge's reasoning, critical thinking, compassion, empathy, etc.

RISKS OF GEN AI IN LEGAL SERVICES

Gen Al does not respect confidentiality or privacy; anything you enter into an open source system may be used for training or other purposes.

It does not guarantee the accuracy of its output, although it can sound very confident and compelling. Nevertheless, it hallucinates and predicts things based on Internet content and output can therefore be variable.

Currently there is no accountability for incorrect content and Gen Al can be biased, toxic, and defamatory.

Gen Al is not transparent and explainable; it is not secure and is subject to jailbreaking and other adversarial attacks. The output is likely not subject to copyright protection and may infringe on others intellectual property rights.

Then Professor Susskind explained how technology will transform the work of professionals and particularly lawyers and therefore the dramatic impact of AI on the legal system:

If knowledge can be digitised and commoditized, then—crucially—the old models of professional work must change.

Thus, the acceleration and enhancement of artificial intelligence is rapidly reshaping traditional professional work, particularly the legal profession. Richard emphasised the need for adaptation and transformation in the legal field to harness the benefits of AI while addressing its challenges.

Professor Susskind's ability to accurately, predict legal reform is well documented. He wrote his doctorate at Oxford in the 1980s on artificial intelligence and now advises the government and judiciary alike on this specialist subject and one which is transforming the world around us at an alarming rate.

"the new systems will fundamentally define conventional practices and will upend the legal world. "

It's all about mindset, – it's not about what the legal service provides to the client, rather what the client wants.

This new type of thinking requires a change of focus for the future, and one must take a step back to move forward and establish the fundamental value of the service to those people who use the legal profession. The traditional models will be redundant and with the rise in AI technology the new will become quicker, cheaper, and more processed (lighter) litigation.

Professor Susskind described the fundamental distinction between drilling a hole using the same power drill but with a different bit and making the hole using a completely different method. This is analogous to the different approaches to AI. Are we using AI to build a better power drill? Or are we using AI to get a hole in a different way? What is the fundamental value that lawyers bring and can we deliver that value in different ways in a digital society?

The new technology will be grafted onto the old systems of work (automation), but AI will also innovate, technology, performing tasks that were not previously possible.

These exciting times in technology (AI) will enable new ways of working in the legal world, and will streamline and improve access to justice for more of the population.

In the digital world, there will be new ways to resolve legal disputes, very different to the traditional methods and systems, and without the need for parties to come together in the same place, and at the same time.

The advent of Covid, and the lockdowns it caused, changed things radically. It meant remote Court access, and despite the conservative values and beliefs that had gone before, some minds were opened, and others were changed. Even though the judiciary and lawyers are

regarded as extremely conservative (second only to the clergy), they have shown an incredible adaptability when change is really required.

Technology (systems and machines) are becoming increasingly capable all the time. Especially in the performance of neural networks (the technology underlying AI), its capacity is doubling every 3 1/2 months currently, which would mean a 300,000-fold increase in performance in the next six years.

Furthermore, there is no finishing line, the pace of change is therefore constantly accelerating. Professor Susskind suggested that AI is the greatest technological advancement ever in humanity, which creates an onerous duty upon the legal profession to ensure that this technology allows greater access to justice.

Online Judging - simplification of civil litigation especially low value matters - no physical hearing or oral evidence required, and these online systems have created very successful ways to resolve high volume low value claims.

If we are to improve access to justice, then different thinking is required, and one answer is self-representation assisted by AI. Judging is insufficient we must provide new tools to help litigants organise and present their claims.

AI will provide tools to help people understand and simplify the process.

1st Generation AI models have been around since the 1980's when rule based expert systems and flowcharts (decision trees) were constructed, reducing very complex systems into flowcharts.

Now 2nd Generation machine learning systems allow not only prediction of outcomes but also generation - the Lexis Nexis system Lexmachina can generate very accurate judgement predictions.

Similarly, systems that identify and isolate the necessary documents relevant for a particular case - these systems can often outperform junior lawyers and paralegals.

Generative AI is the most remarkable system seen in 40 years - ChatGPT can produce documents and arguments, organise evidence etc in seconds.

This is not the first chapter, but we are now at the beginning of the development and the systems are becoming more and more capable. Therefore, we are at a "time of remarkable change" - these systems will help people know their entitlement and eventually provide machine determined outcomes.

"An opportunity to replace our old ways of working with new systems."

How will AI assist the development of Online Courts?

Artificial Intelligence will assist the development of online Courts - access to some justice is better than no access to justice.

AI will assist procedurally with form filling etc., Generative AI will provide a huge opportunity of access to the justice system, however just because it's technically possible does not mean it's socially, ethically, and morally acceptable.

Despite this there is a danger of regulating AI too robustly and prematurely.

We are in a different world now and the automatic cars will be safer in the future, what will be required therefore is rethinking our concepts of road traffic liability for the future.

Nevertheless, AI contains Bias - the Data itself contains some structural or historical bias and the algorithms chosen by the developer may contain certain features to measure or predict bias.

Future Law - the ways of solving legal problems will differ greatly and they will need a whole host of technological skills and tools that were not available ever before.

Professor Susskind's prediction was, he said important but not urgent "at the moment."

In conclusion he predicted a big shift away from hourly billing to legal software and data solutions with a focus on legal technology, startups, and standardising processes into products.*

CONCLUSION

AI is here to stay and with new technology and ever developing systems, the legal community will become increasingly processed and efficient which in turn, it is believed, will enable many more people globally to have greater and more affordable access to Justice.

Some of the issues discussed in this piece are analysed in further depth in Professor Susskind's books "Online Courts and the Future of Justice" (OUP, 2019, 2022) and "Tomorrow's Lawyers" (OUP, 3rd edition, 2023).