Use of AI in criminal justice

Corporate Crime analysis: Dr Angelika Hellweger, Legal Director at Rahman Ravelli, considers how artificial intelligence (AI) is being used in the criminal justice system, explains the key factors to consider when using AI during the investigation & prosecution of criminal offences and offers her predictions as to how the criminal justice system will need to adapt for the use of AI in the future.

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How is AI being used in the investigation & prosecution of criminal offences?

Predictive policing, crime detection, machine-generated evidence, integration of AI in sentencing and risk assessment and recidivism algorithms are examples usually deployed to showcase substantial benefits of AI in the criminal justice system. Besides changing the traditional investigation mode, AI also expands the criminal investigation powers of police departments.

Predictive policing is where computer programmes analyse data on previous crimes and individuals or places associated with them. AI then uses this to make predictions about where a crime is most likely to take place or even who might be most likely to commit a crime. This approach enables authorities to allocate resources and deploy patrols more effectively, thereby deterring criminal activities and enhancing public safety.

In crime detection, AI can be used—to take one example—to identify gunshots without the police watching or being at the scene. This allows the police to respond quicker to shooting events. AI technology sensors can be installed in public infrastructure which will be connected to a cloud-based computer capable of accurately identifying and pinpointing gunshots. Each sensor records the timing and sound of gunfire. This data from several sensors can help in the investigation of an incident. Sensors can also help pinpoint the shooter's location.

In the context of AI-driven crime analytics, AI can be used to organise, categorise, analyse and interpret suspicious activity reports and evidence and, in particular, electronic evidence (such as online shopping, financial transactions, emails, chat logs, social media posts, and the corresponding subscriber and traffic data) with the aim of consolidating the prosecution files. This suggests that the respective evidence, corresponding to past criminal activity, has already been collected, with or without the help of AI applications. In that sense, the focus lies on identifying patterns in the data available and connections that either may not be visible to human analysts or may be particularly time-consuming to detect.

The integration of AI in sentencing and risk assessments has emerged as a significant development in the criminal justice system. By leveraging machine learning algorithms, AI technologies are being utilised to assist judges in determining appropriate sentences and evaluating the likelihood of recidivism.

AI algorithms analyse various factors, such as prior criminal history, offence severity and demographic information, to generate recommendations for sentencing. Proponents argue that AI can enhance sentencing consistency, reducing disparities caused by human biases and subjective decision-making. By considering a broader range of data points, AI systems can provide judges with additional information and support in determining sentences, leading to a more standardised approach.

It might also be used for assessing the likelihood of an individual's future criminal behaviour, informing decisions related to parole, probation or release conditions. Machine learning algorithms analyse historical data to identify patterns and risk factors associated with recidivism. The more data, the higher the accuracy of the report. However, if the artificial intelligence considers data that is artificially

created, falsified, or is based on incorrect translations, incorrect experts' conclusions and explanations or knowingly false testimony of a witness, victim or suspect, then the correctness of the artificial intelligence's conclusion will be affected.

How have prosecutors and defence lawyers had to adapt their practice to take account of the increased use of AI?

In general, AI can improve suspect and victim identification, crime prevention and risk assessment and can thus assist both the prosecution and the defence side. However, AI can also have detrimental effects. It might undermine fundamental rights, such as the right to non-discrimination, the right to protection of personal data and to a private life, the right to freedom of expression, and the right to a fair trial. Bias might lead to severe disadvantages affecting the defendant and outcomes in a trial.

AI can assist prosecutors and defence counsels in working faster and more efficiently in some aspects of the investigation, for example when it comes to legal research or the gathering of evidence to be used in a trial. This might shorten the length of investigations and trials, on the one hand, and might also bring savings when it comes to defence costs for the suspect. However, AI tools can also become a burden to defence counsels if they do not have the finances to invest in this technology, in particular when taking into account the fact that many defence counsels are doing legal aid cases. Ultimately, this can lead to a disadvantage in a trial (and the outcome of a case) for those suspects who are not able to pay a defence counsel with their own funds.

When using AI-assisted defence tools, a defence counsel must be able to present evidence that is admissible in court, can be used to support a defendant's case and complies with professional conduct rules for lawyers. This also requires the awareness that AI has the potential to manipulate evidence and can make decisions based on inaccurate or incomplete data. A defence lawyer also needs to be mindful to protect the privacy of their client. However, AI-analysed evidence might be of great help in shaping a defence strategy as it allows to search for patterns and give insights which 'humans' are not able to.

What are the key factors lawyers should consider when AI is being used during criminal investigations & prosecutions?

AI algorithms are not flawless. They might create false positives, be biased against certain demographics and might also be vulnerable to hacking attempts. The black box nature of AI algorithms poses challenges to transparency and accountability. In order for the judges or jury to make an informed decision on the guilt of the defendant, light must somehow be shed on this black box. As AI output is often inexplicable, the question arises of how the defendant will be able to defend themselves and contest the evidence produced by it.

Lack of transparency can undermine public trust and raise concerns about the fairness of AI-driven decisions. Affected individuals may experience grave adverse consequences, ranging from social exclusion on the basis of a risk assessment—the non-discriminatory character of which cannot be taken for granted—through to violation of their personal freedom.

Thus, it is important that criminal justice professionals, such as judges, prosecutors, and law enforcement officers, have a basic understanding of AI and its potential risks and benefits. This can help them make informed decisions about the use of AI in their work and ensure that it is used responsibly.

What are your predictions as to how AI will be used for the investigation of criminal offences in the future and what impact will this have for those advising suspects?

Although AI can enhance the speed and accuracy of tasks such as legal research, it cannot replace judgment, morality, or interaction with court, counsel, or colleagues. In front of a jury, the prosecutor's and defence counsel's narrative, including their advocacy skills, will always remain key. AI might also not replace human decision-making or humanity when it comes to the use of discretion and considering extraordinary circumstances which require a different approach. While AI can aid

decision-making, ultimate responsibility rests with humans. It is crucial to maintain human oversight in the criminal justice system and consider AI as a tool to improve human judgment, rather than replace it. Thus, judges, prosecutors, lawyers, and policymakers must exercise critical thinking to question and validate AI-generated outputs, ensuring that decisions align with legal principles and ethical norms.

It will be important, therefore, to have clear guidelines for the use of AI in the criminal justice system, such as when it is appropriate to use AI and how to ensure that the algorithms used are transparent and unbiased. Furthermore, there will need to be independent reviews of AI algorithms and decisions made by AI, as well as the establishment of an ethics board to advise on the development and deployment of AI in the criminal justice system.

AI is a State privilege and, as such, defendants need to be equipped with the procedural rights that will preserve equality between them and the State, and the fairness of the trial. The defendant must be able, in this new criminal procedural framework, to defend themselves against AI and contest the evidence produced by it.

If machine evidence is to be allowed in criminal courts, it will be key that the right to a fair trial is upheld. Specific criminal procedural rules will be needed to address the relevance and reliability of this evidence. These would need to ensure the right of the defence to question how the evidence was calculated and obtain knowledge about how to challenge it from a technical point of view. One also needs to keep in mind that in contrast to witnesses, for instance, the AI evidence cannot come and testify in court. As usually a number of people are involved in setting up AI software, it needs to be ensured that the AI is explicable, so that it can be rebutted by the defence counsel.