NATIONAL JUDICIAL ACADEMY

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The National Judicial Academy (NJA) organized a two day National Conference for High Court Justices on 09th & 10th of November, 2024 on the seminal domain of Artificial Intelligence (AI) in Judicial Governance. The program aimed to enhance core conceptual understanding of AI as a technology, and its applications in judiciary. Moreover, the prospective risks posed by AI was in the menu for discussions. Therefore, the Governance of AI was contemplated. The conference was divided into five sessions, spread over two days. Each session covering a core area including An Introduction to AI: Scope & Limits, AI as an Aid in Sentencing: Critical Analysis, AI as Administrative Tool, Contours of Prospective Issues & Threats, and AI & Criminal Liability: Prospects & Challenges. The Conference saw attendance from 18 High Courts from pan India, represented by 27 Justices. A brief overview of the important takeaways from the workshop is reported hereunder.

Session 1 – An Introduction to AI: Scope & Limits
Speakers: Justice M. Sundar & Prof. Madhusudanan B.

The session initiated by tracing a brief timeline of introduction of Artificial Intelligence (AI). It was narrated that –1939 to 1945 the "*Imitation Test*" of British mathematician Alan Turing to decode German messages during World War II is believed to be a first AI application. John McCarthy coined the term 'artificial intelligence' and during the first AI conference only in 1956. The IBMs "Deep Blue" was the first to defeat a human chess maestro recording a higher level skill set to understand and accurately predict anticipated moves in a game in 1997. 2002 say the first commercially created robotic vacuum cleaner. The period between 2005 - 2015 saw the unprecedented technological advancements in myriad domains including speech recognition, robotic process automation (RPA), the dancing robot, smart homes, and such other micro to macro innovations. In 2015, Joshua Browder, a computer scientist educated from Stanford University, launched "DoNotPay", a legal services chatbot designed to help consumers deal with late fees and fines. *Baidu* in 2020 released the "Linear Fold AI algorithm" to the scientific and medical teams developing a vaccine during the early stages of the SARS-CoV-2 (COVIC-19) pandemic. The algorithm can predict the RNA sequence of the virus in only 27 seconds, which is 120 times faster than other methods. While 2023, saw the World's first AI-enabled robot lawyer by "DoNotPay" that could help the defendant of a speeding ticket in court of law, by telling him/her what to say throughout the case *via* an earpiece. However, the AI lawyer was not launched owing to legal oppositions by Bar and Bench. Addressing a genuine query as to whether computers have cognitive abilities, thereby, can AI show cognitive abilities? It was explained that, while computers can perform tasks that <u>mimic certain cognitive skills</u> through advanced algorithms and machine learning, <u>they do not possess genuine cognitive abilities like humans</u>. Their 'intelligence' is limited to data processing and pattern recognition, devoid of consciousness, subjective experiences, or true

understanding. Thus, computers simulate aspects of cognition rather than actually having cognitive skills in the human sense. The "Turing Test" (developed by Sir Alan Turing, 1953, sometimes also known as "Imitation Game"), was an inquiry to the question as to whether machines can show "intelligent behavior"? (Meaning thereby as to whether machines can be intelligent? Extrapolating to the fact that whether AI is a feasible proposition?). Turing proposed that a computer can be said to possess artificial intelligence if it can mimic human responses under specific conditions. Parallel to this thought, in 1956 at Dartmouth College in New Hampshire, USA, a Summer Research Project on Artificial Intelligence was organized as a seminal event. This summer research project was a joint proposal involving the academic researchers and industry. The project proposal was organized by John McCarthy, Darthmout College (who later became famous to be called as the father of AI who is said to have coined the term "Artificial Intelligence"), with Marvin Lee Minsky, Harvard University (a co-founder of the Massachusetts Institute of Technology's AI laboratory and wrote extensively about AI and philosophy, including "The Society of Minds"); with Nathaniel Rochester (IBM Corporation), and Claude.E. Shannon (Bell Telephone Laboratories), from the industry side. It has been asserted that, "[t]he use of computer systems employing algorithms to, …perform online searches, predict crimes, identify the 'best' job applicants, and allocate medical care may initially seem to be a way of avoiding human bias… but, …in practice, algorithmic decision-making has often proven to be far from neutral and objective and can, in fact, amplify biases and reinforce stereotypes based on race, gender, and other social categories." (Prof. Susan Brison, Eunice and Julian Cohen Professor for the Study of Ethics and Human Values, at Dartmouth College, US). The session further, dealt with the dictionary and popular meanings of the words "Artificial" and "Intelligence".

Session 2 – AI as an Aid in Sentencing: Critical Analysis

Speakers: Justice M. Sundar

The session focused on the premise that if AI or Machine Learning (ML) technology is used by the judiciary in the process of sentencing, what would be the feasibility. The session examined the advantages and challenges which can be anticipated in such a venture. "Sentencing Proportionality" is a concept that deals with "making the punishment fit the crime". The concept finds a popular presence in "retributive theories". However, many "non-retributive theories" too find it useful while dealing with the purpose of punishment. Proportionality in sentencing is believed to require a higher degree of judicial discretion. This is because, several factors needs to be considered by the court in each case before it to ascertain a proportionate sentence *viz.* state of mind of the accused at the time of crime, degree of harm suffered by the victim, seriousness/gravity of the crime, etc.

Dealing with sentencing there can be atleast two types of algorithms: 1) predicting whether a defendant or accused will re-offend? *viz.* COMPAS of US. These are also called "*actuarial risk-assessment instruments*", and are the most popular form of algorithms. These are methods of predictions (actuarial methods) which consider the past, present, and future criminal behavior of a particular person; 2) predicting the judge's behavior while awarding a proportionate sentence. This

type of algorithm does the prediction of sentence, based upon a "finite list of case-specific factors". It may be considered that, rather than considering the "actuarial methods" it is always better to consider the predictions based upon past judicial opinions rather than "criminal behaviour" of a person, which makes it fairer and less arbitrary.

The few prominent challenges which were identified could be 1) Algorithmic Transparency; and 2) Trust. In the first case it was discussed that since the court system is a open system, where the argument of the adversarial sides can be seen understood and interpreted by all the three stakeholders namely: the opposite Parties and the judge, the same is not possible when the help of an ML based system places before the judge a particular opinion for his/her consideration. This is because in a machine based operation only the input-data and the output-data at best can be humanly contemplated. However, the processing of the input-data by the ML which leads to a certain output is not understood by the human (as the same is in machine language), therefore, there is a sort of "black box" operation in between which is often opaque to human understanding and at times has given rise to the popular "right to explainability". Considering the advantages of AI in sentencing it was discussed that, an AI sentencing tool can enable the judge in 1) Improving the efficiency; 2) Curb "disparity" in sentencing. I was further inquired as to whether "disparity" is equivalent to "dissent"? Moreover, a distinction can be carved out between "inter-judge disparity" and "intra-judge disparity". Addressing "intra-judge disparity" it was explained as to a scenario wherein a judge changes his/her approach to sentencing from what (s)he had been historically doing to arrive at a decision. This can actually happen, when a judge a) evolves with experience; b) adapts to the social changes; and c) when there is a change in law and course of precedence. The discourse further continued on the dissecting the technological developments in sentencing into two major parts; i) Non-intelligent; and ii) Intelligent. The first is the kind which is a computer assisted program which helps the judges to have "uniform" judgments. Therefore, in such a system the judge is likely to work on a template based standardized processes to ascertain uniformity. The second type, would involve ML algorithm. These systems don't suggest predetermined (templated) decisions to the judges. They infact learn from the previous experiences and data analysis to improve, and improvise capability. Thus, this would enable the judges with a) It provides quick access to the judge to the severity level of previous sentencing practices, therefore, how severe a sentence to be given can be generally assessed benchmarking with the historic records, *viz.*"Curving sentencing discretion"; b) there is a automatic updating of the data-base with the new sentences in the field; & c) Reduces "inter-judge disparity" in sentencing. The concept of "synthetic crowdsourcing" was also discussed.

Another reason why discretion is necessary, is that, even on identification and relevant factors responsible for a criminal act, the reason behind such factor may be different in case-to-case basis. The reason of an act of extortion may be to feed a hungry child in a case while to acquire illegal wealth using force on the other. It can be a an aggravating act of assault on a family member in one case; whereas, the same may be mitigating on the other hand, when a father might choose to assault to kill his near-one who may be suffering from incurable and extremely painful vegetative life. So, the reasons would differ, thereby attracting different moral judgments for a similar case or factor in a case. This is where no, algorithm may match a human judge.

Therefore, the conflict remains between two militating situations. On one hand the Discretionary Sentencing practices focuses on individual cases with "holism" and moral considerations, while excluding "fairness" as a challenge. While on the other hand the Strict Mandatory Sentencing phenomenon which are Rule based, focus on treating like cases alike giving insufficient attentions to the moral aspects around each individual case.

To reconcile the conflict it can be suggested to i) develop an algorithm that would draw correlations (using Regression Techniques) between input variables of various kinds (deriving from the reasons that the judges give while awarding a sentence), with the outcome (i.e. the final sentence awarded by a judge); or ii) An ML Algorithm can be developed to search the correlations autonomously. The biggest advantage in deploying an ML is that as new judgments are uploaded, the data-set gets updated and so does the ML deliverables. It will also, inform the peer judges of the approaches taken in various cases on a real-time basis. Moreover, the ML revises its predictions in light with the new evidences and developments in the sentencing jurisprudence. Such an AI/ML automation would not require frequent legislative interventions to revise gradual, but significant changes in judicial dispensations. The ML "learns" on its own from the bigger and growing data-set to reset its latest opinion.

Session 3 – AI as Administrative Tool

Speakers: Justice C. M. Joshi & Prof. Madhusudanan B.

This session focused on the premise that how best can AI be put to use to enable administration of the courts and the justice dispensation system. "Science is a good servant but a bad master" goes the archaic adage. Therefore, AI as a tool to positively impact the system in three key areas were discussed, namely: 1) Court Management; 2) Case Management; and 3) Relationship Management. In this area of Court management, the induction of AI can prove to be of immense use when it comes specifically to the management of the registry. AI can impact the management of the board of a judge. Moreover, the administrative function of roster management can be very effectively done with the help of algorithms. It was emphasized that many of the courts pan India are now diligently invested in the above activities with the rolling out of the Phase-3 of the e Courts project. Whereas, at the individual level the judges are now independently becoming more conversant with the use of various integrated software applications to help them save precious time, while they engage in their judicial time dispensing justice. Use of AI tools to the extant digitalized eco-system would further catalyze courtroom efficiency. The use of various AI based applications *viz.* "*Bhashini*"; "SUVAS"; "SUPACE"; "*Jugalbandi*"; etc. were cited. AI and machine learning (ML) offer opportunities to enhance decision-making and productivity of the Indian judiciary. These technologies can identify and correct biases, systematize legal data, and improve procedural fairness. ML can standardize legal data and help evaluate judicial decisions by analyzing randomly assigned cases.

Discussing on the disadvantages and the challenges of the AI tools in the digital age it was underscored that, the sheer scale and capability of Generative AI technology has provided an easy and unbridled access to the delinquents to not only generate human-like indistinguishable out-puts

as electronic evidences, but also the capability to scale-up such deliverables poses a serious challenge of clogging the Courts and the digital forensic laboratories by flooding such misleading and unreliable evidences. Thus, compromising the smoot and flawless justice delivery system. It was underscored that technology should complement, not replace, human decision-makers in the judicial process, with tools designed to assist rather than substitute human judgment.

Session 4 – Contours of Prospective Issues & Threats

Speakers: Justice S. Muralidhar.

In this session a critical overview of the risks and threats in deploying AI and reliance on algorithms beyond, it being a mere service tool was considered. It was contemplated that, judiciary have been slower than other government sectors in promoting and executing intensive use of Information Technology (IT). Nevertheless, there is an increasing volume of generation of digital information, resulting from IT in legal procedures, providing an ideal atmosphere for deploying AI and ML over the ever growing data-reservoir. AI can surely help judicial system deal with the perineal and chronic issues *viz.* slow delivery processes, and high operating costs. At the same time, AI use raises important concerns about safeguarding the values of Justice. While developers of traditional systems are legally responsible for their functionality, AI shifts this responsibility to the users (judges), who remain accountable for actions taken with AI support, despite the systems' opacity and autonomy. This shift in accountability could limit AI's potential use in judicial contexts unless new accountability frameworks are developed to preserve judicial integrity. It was highlighted that many literature, discourse and debates projects currently, that the AI applications are "many with only a few guardrails". One would have serious concerns about the use of untested, invalid, or unreliable AI systems, "*function creep*," discriminatory and inequitable outcomes, and the general hacker's philosophy of "move fast and break things.

Session 5 – AI & Criminal Liability: Prospects & Challenges

Speakers: Justice Raja Vijayaraghavan.

The session was on a discussion mode. The participant justices shared their experiences and view of unique cases that would be posed before the court of law in the wake of the transformative age of technology. One such gray area discussed was on "revenge pornography". The challenges faced to deal with such issues when a non-consensual image-based harassment of women is being uploaded on internet was discussed. Yet another area of concern flagged during the discussion was the "cross-border defamation" cases, exacerbated by the global reach of the internet. It was discussed that a unilateral penal prosecution in such cases often is loaded with the tendencies of resistance from the adversarial jurisdiction which may not have similar legal positions. Therefore, a multilateral approaches *viz.* soft law principles adopted by the *Institut de Droit International* in 2019 and a proposed *Model Defamation Convention* was floated. A cooperative legal approaches to cross-border defamation was considered, in the sense that it would to avoid escalating legal conflicts. The evolution of AI from tools to autonomous systems capable of intelligent behavior and the potential risks they pose formed part of discourse. Can AI be subject to criminal law? The

complexities of attributing criminal liability, the need for legal personhood for AI, and the responsibilities of developers, operators, and users were discussed. The need for having "ethical AI" mandates, policies and guidelines, and the necessity for robust legal frameworks to address AI-related crime and ensure responsible technological advancement formed part of the discourse. Three models of AI liability, namely: 1) Perpetration-via-Another, 2) Natural-Probable-Consequence, and 3) Direct Liability could be examined. The emergence of potential tortious liabilities, wherein human rights might conflict with AI operated machines *viz.* driver-less auto-driven cars, when and if faced with an accident was contemplated. Therefore, an updates to criminal law to handle issues like AI-driven negligence and culpability as technology advances formed part of discussions.

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