# Session 4
# Technology for Judges

**Historical trajectory of AI** :

1939-1945 – Imitation test of British Mathematician Alan Turing to decode German messages during World War II is believed to be a first AI App.

1956 – John McCarthy coined the term ‘artificial intelligence’ and had the first AI conference.

1969 – Shakey was the first general-purpose mobile robot built. It is now able to do things with a purpose vs. just a list of instructions.

1997 – Supercomputer ‘Deep Blue’ was designed and it defeated the world champion chess player in a match. It was a massive milestone by IBM to create this large computer.

2002 – The first commercially successful robotic vacuum cleaner was created.

2005-2019 – Today, we have speech recognition, robotic process automation (RPA), a dancing robot, smart homes and other innovations make their debut.

2020 – Baidu releases the LinearFold AI algorithm to medical, scientific and medical teams developing a vaccine during the early stages of the SARS-CoV-2 (COVID-19) pandemic. The algorithm can predict the RNA sequence of the virus in only 27 seconds, which is 120 times faster than other methods.

2023 – Efforts in the direction of creating World's first AI-enabled robot lawyer for defending a person facing a speeding ticket charge.

**Definition of 'Artificial'** :

In P.Ramanatha Aiyar's Advanced Law Lexicon :

Opposed to natural. Created by art, or by law; existing only by force of or in contemplation of law.

In Oxford Advanced Learner's Dictionary :

*adj*.**1** made or produced to copy sth natural; not real: an artificial limb/flower/sweetener/fertilizer artificial lighting/light **2** created by people; not happening naturally: A job interview is a very artificial situation. the artificial barriers of race, class and gender **3** not what it appears to be **fake**: artificial emotion artificiality / *noun*[U] artificially; *adv*.: artificially created lakes artificially low prices

**Definition of 'intelligence'** :

In P.Ramanatha Aiyar's Advanced Law Lexicon :

Understanding as a quality admitting of degree; secret information. [S.34(d), Army Act (46 of 1950)]

In Oxford Advanced Learner's Dictionary :

*Noun* [U] **1** the ability to learn, understand and think in a logical way about things; the ability to do this well: *a person of* ***high/average/low intelligence*** He didn't even have the intelligence to call for an ambulance. **2** secret information that is collected, for example about a foreign country, especially one that is an enemy; the people that collect this information: intelligence reports the US Central Intelligence Agency.

**Definition of 'Artificial Intelligence'** :

In P.Ramanatha Aiyar's Advanced Law Lexicon :

Artificial intelligence. The capability of a computer to make decisions by a reasoning process similar to that used by humans. Work in the field of artificial intelligence is mostly experimental.

In Oxford Advanced Learner's Dictionary :

Artificial intelligence – an area of study concerned with making computers copy intelligent human behaviour.

## Prompt 1 – Write a note on whether AI has cognitive skills of human mind.

**Conclusion**

‘In summary, AI can replicate some cognitive functions through programming and data processing but it does not truly ‘***think***’ or ‘***understand***’ like human mind. Its abilities are limited to the scope of its training and algorithms without the depth or flexibility of human intelligence.’

## Prompt 2 – Write a note comparing human mind and AI.

**Conclusion**

‘While AI can perform specific tasks more efficiently than humans, it lacks the emotional depth, intuition and true understanding of the human mind. The two are fundamentally different—AI is a tool created by humans, not a replacement for human intelligence.’

## Prompt 3 – Write a note comparing human mind and artificial intelligence.

**Conclusion**

‘When AI is a powerful tool that enhances human capabilities, it cannot fully replicate the depth, emotion and consciousness of the human mind. The best outcomes often arise when humans and AI work together, combining emotional intelligence with computational strength.’

# SIMILARITIES

## PERCEPTION

Artificial Intelligence (AI) can process sensory input like humans, such as recognizing faces, objects or voices. For instance, computer vision and speech recognition systems perform tasks similar to human sensory perception.

## LEARNING

Artificial Intelligence (AI) uses machine learning to identify patterns and improve performance over time akin to human learning. However, AI learns through data and algorithms.

# SIMILARITIES

## REASONING AND PROBLEM SOLVING

(AI) can perform logical reasoning, solve problems and make decisions based on programmed algorithms or data. This is similar to human cognitive processes in structured scenarios.

## LANGUAGE UNDERSTANDING

Artificial Intelligence (AI) systems like chatbots and virtual assistants can understand and generate natural language, allowing them to engage in conversation and analyze textual information.

# DIFFERENCES

## CONSCIOUSNESS

(AI) lacks self-awareness, emotions and consciousness, which are central to human cognition. AI performs tasks without understanding their context or significance.

## INTUITION AND CREATIVITY

While AI can generate creative outputs (e.g., art or music), it doesn't have intuition or genuine creativity. Its outputs are based on patters in data, not original thought or inspiration.

# DIFFERENCES

## EMOTIONS

AI does not experience emotions. While some systems are designed to recognize or simulate emotional responses (e.g., sentiment analysis), they don't feel emotions like humans.

## ADAPTABILITY

Human cognition is highly adaptable and flexible, capable of handling unstructured, unpredictable scenarios. AI, while adaptable to some extent, struggles with tasks it hasn't been trained for or environments outside its programmed scope.

# DIFFERENCES

**MORAL AND ETHICAL JUDGMENT**

Humans make decisions influenced by values, ethics and cultural norms. AI lacks moral reasoning and makes decisions based on data, rules and objectives set by programmers.

## CONCLUSION

While AI can replicate some cognitive skills of the human mind, it operates fundamentally differently. AI lacks self-awareness, emotional depth and the holistic understanding that characterizes human cognition. It is a powerful tool that complements human abilities but does not equate to human intelligence.

**Four types of AI** :

General AI, Evolutionary AI, Narrow AI and Generative AI

General AI – Strong AI can perform intellectual task efficiently like humans.

Evolutionary AI – Uses algorithms to mimic human natural selection process.

Narrow AI – designed to carry out very specific actions or commands.

Generative AI - Generative AI models learn the patterns and structure of their input training data and then generate new data that has similar characteristics.

## Opportunities for implementation of AI (in Court):

(A) **Automated Transcription Services -Real-Time Court Transcriptions** : AI-driven transcription services can provide real-time transcriptions of court proceedings, enhancing accuracy and reducing the reliance on manual transcription services. This can expedite the availability of court records for review and appeals.

Example: Legal Real Time - an AI-powered transcription services developed by the Israeli company Verbit offers real-time transcriptions and improve the accessibility of court records.

(B) **Sentencing and Bail Decision Support** : AI can assist judges in making informed sentencing and bail decisions by providing data-driven insights and risk assessments based on historical data and predictive analytics. This can help in ensuring consistency and fairness in judicial decisions.

Example: The Public Safety Assessment tool in the US helps judges in pretrial release decisions by assessing the risk of defendants reoffending or failing to appear in court, contributing to more informed and equitable bail decisions.

(C) **Predictive Policing and Crime Prevention**: AI can be used for predictive policing to anticipate potential criminal activities and allocate resources effectively, thereby reducing crime rates and the subsequent burden on the judicial system.

Example: The Los Angeles Police Department (LAPD) uses PredPol, an AI-based predictive policing tool, to identify crime hotspots and deploy officers proactively, leading to a reduction in crime rates and an overall decrease in the judicial caseload. It looks at the types of crimes that were committed in a given area, the time, and the location, and determines whether and when another crime is likely to occur there. PredPol then spits out maps, which are updated daily, marked with 500-by-500 foot hotspots that officers are strongly encouraged to patrol.

(D) **AI Chatbots and Legal Assistants** : AI chatbots and virtual legal assistants can provide instant access to legal information and advice, helping individuals understand their legal rights and procedures, and potentially reducing the number of cases that escalate to court.

Example: DoNotPay, an AI chatbot in the US and UK, assists users in contesting parking tickets, navigating small claims court, and understanding legal processes, thereby improving access to justice and reducing court congestion.

(E) **AI for Administrative Tasks** : AI can automate various administrative tasks within the judiciary, such as case file management, document processing, and workflow optimization. This can free up human resources for more critical tasks and improve overall efficiency.

(F) **AI in Judicial Policy and Reform** : AI can analyze judicial data to identify trends, bottlenecks and areas for improvement, providing valuable insights for policy makers to implement effective judicial reforms and enhance court efficiency.

(G) **Case Management and Scheduling** : AI can revolutionize case management by prioritizing and scheduling cases based on urgency, complexity and available resources. This approach can significantly reduce delays and optimize the use of judicial resources. AI algorithms can analyze case data, predict the time required for different types of cases, and suggest optimal scheduling strategies.

Example: The United States' Case Management/Electronic Case Files (CM/ECF) system uses AI to manage electronic case files, resulting in improved efficiency and accessibility. Implementing a similar system in India could streamline case handling and reduce administrative burdens on the judiciary.

(H) **Legal Research and Document Review** : AI-powered tools can assist judges and lawyers in legal research by quickly sifting through vast databases of legal documents, precedents and statutes.

Example: ROSS Intelligence, an AI legal research tool leveraging IBM's Watson, provides relevant case law and statutes, significantly reducing research time. Adopting such AI tools in India could enhance the efficiency and accuracy of legal research.

Tools such as Alexsei used in Toronto use machine learning to identify relevant and up-to-date case law across the web and scan the Internet to discern lawyers' opinions on cases as identified in their legal blogs. The software then generates a legal memorandum within 24 hours of being asked a legal research question.

(I) **Predictive Analytics** : AI can analyze historical case data to predict outcomes, helping lawyers and judges make informed decisions. Predictive analytics can identify patterns in case law and suggest potential outcomes based on previous rulings. This can facilitate pre-trial settlements and reduce the number of cases going to trial, thereby easing the judicial backlog.

Example: The UK's Harm Assessment Risk Tool (HART) uses predictive analytics to assess the risk of reoffending, aiding in bail and sentencing decisions. A similar predictive system in India could assist judges in making data-driven decisions, improving consistency and fairness.

(J) **Automated Judgments and Sentencing** : AI can assist in drafting judgments and determining appropriate sentences by analyzing case facts, legal precedents, and statutory guidelines. This can expedite the judicial process and ensure consistency in sentencing, particularly in routine and less complex cases.

Example: In Estonia, pilot AI judges handle small claims cases, automating the decision-making process and reducing the burden on human judges. Implementing AI for similar cases in India could free up judicial resources for more complex matters.

(K) **Case Analysis, Precedent and Legal Research**: AI can assist judges in analyzing past legal cases and precedents, helping them understand how similar situations were handled previously. Natural Language Processing (NLP) techniques can be employed to extract relevant information from legal documents and summarize key points, thus providing judges with valuable insights for their decision-making process.

Example: ROSS Intelligence: ROSS is an AI-powered legal research platform that uses natural language processing to analyze legal documents and provide relevant case law and precedents. Judges can use ROSS to quickly access and compare relevant cases, facilitating their decision-making process.

In 2016, the European Court of Human Rights launched the HUDOC-EXEC project, which uses AI to assist judges in analyzing case law. The system automatically identifies relevant legal concepts and extracts key information from legal documents, helping judges access relevant precedents more efficiently.

The Singapore Academy of Law developed the "SGJudgments" AI platform, which uses machine learning algorithms to analyze legal judgments and identify relevant case law. This platform helps judges conduct legal research more effectively by providing them with comprehensive and up-to-date information on legal precedents.

LexisNexis: LexisNexis offers AI-driven legal research tools that enable judges to search through extensive databases of legal documents, statutes, and case law. These tools provide judges with comprehensive and up-to-date information on relevant legal issues, helping them make well-informed decisions.

(L) **Predictive Analytics**: AI algorithms can be trained on historical case data to predict the outcomes of similar cases based on various factors such as case law, judicial decisions, and contextual information. By analyzing patterns and trends, these predictive models can help judges assess the likely consequences of different legal arguments and make more accurate judgments.

Lex Machina: Lex Machina is an AI platform that provides predictive analytics for legal professionals. It analyzes historical case data to predict case outcomes, trends, and judicial behavior. Judges can use Lex Machina to assess the likely consequences of different legal arguments and make more accurate judgments.

In the United States, some courts have started using AI-based tools to predict case outcomes and assess the likelihood of recidivism. State of Wisconsin's use of the COMPAS (Correctional Offender Management Profiling for Alternative Sanctions) system. COMPAS, developed by Northpointe Inc. (now part of Equivant), is a widely-used risk assessment tool that utilizes AI algorithms to analyze various factors related to criminal defendants and predict the likelihood of reoffending. It considers factors such as criminal history, age, employment status, education level, and substance abuse history to generate risk scores. While these tools are primarily used by probation officers and parole boards, they can indirectly influence judges' decisions by providing additional information about the risks associated with certain defendants.

(M) **Virtual Simulations and Case Studies**: AI-driven virtual simulations and case studies can provide judges with immersive learning experiences, allowing them to practice their decision-making skills in a risk-free environment. These simulations can simulate real-world courtroom scenarios, presenting judges with complex legal dilemmas and challenging them to apply legal principles effectively.

Harvard Law School's Case Studies Program: Harvard Law School offers interactive case studies that simulate real-world legal scenarios. Judges can use these case studies to practice their decision-making skills and explore ethical dilemmas in a controlled environment.

(N) **Reduce processing time for judgement writing**: Often judgements dealing with certain offences follow a certain template and pattern. AI can help judges in the generation of these templates saving considerable time

Example: IBM worked with the Frankfurt District Court to successfully test an AI system known as “Frauke” (Frankfurt Judgment Configurator Electronic) for air passenger rights lawsuits. Between 10,000 to 15,000cases related to passenger rights (e.g. related to delays) end up at the Frankfurt District Court every year. The court asked for help for the process of drafting the judgements. *This was a very laborious and repetitive task for the judges, who had to collect the relevant data and, in the end, repeatedly write almost identical judgements.*

**<u>Familiarizing Judges with latest technology</u>**:

1.Continuing education and professional development;

2.AI based training modules;

3.Language translation and interpretation;

4.Ethics and Bias detection;

5.Managing work load;

6.Feedback and evaluation systems.

## 6 caveats :

**Caveat No.(I) :**There is no codified legislation for the use of AI. It is imperative to ensure and deal with the challenges. A statute with title '*The Artificial Intelligence (Development & Regulation) Bill, 2023*' has been suggested by a private entity. We should put in place a legislation before deploying Artificial Intelligence in judicial decision making as deploying and then bringing the statute will tantamount to put in cart before the horse.

**Caveat No.(II)** :Consider but do not rely - Classic example is *Loomis*'s case decided by Supreme Court of Wisconstin in USA. This was a case where a AI tool called COMPAS [Correctional Offender Management Profiling for Alternative Sanctions] which is a recidivism tool, was used for sentencing. *Loomis* contended that while the facts on one side and conclusion are available, he has no access to dispositive reasoning as he has no access to Algorithms. The good take away is Supreme Court of Wisconstin said that the terms 'relied' and 'considered' are being used interchangeably but it should not be so. As regards AI tool in Judicial Decision making, you can 'consider' but do not 'rely'.

**Caveat No.(III)** :We should always lean towards Cyborg Judges rather than Robot Judges. Cyborg in short is 'part man part machine'. Even in Estonia, where cases upto 7000 Euros [8000 US $] are tried by Robot Judges, there is a provision for an appeal to human agency.

**Caveat No.(IV)** :Stagnation in jurisprudential development. In this regard, the simple question which I ask myself is 'Who will write dissents?' In celebrated K.S.Puttaswamy, which is widely known as 'Privacy Judgment', privacy has been read into fundamental rights and as many as three past momentous dissents have been held to be good law. After all 'dissent is future intelligence'.

**Caveat No.(V)** :Future of Humanity society, an institute in Oxford headed by Mr.Nick Bostrom, a Swidish Philosopher, after a detailed study on 'Existential crisis of human species' said, "AI will be the last invention which human being make", his logic was machines will start inventing intelligent machines and cognition of human mind will become extinct. He was widely criticised to be a doomsayer.

**Caveat No.(VI)** :Digital Divide – Building a bridge is imperative.

# Global Overview of Integrating AI in Court Processes :

- **United States of America**:
  - **I-CAN!**, the interactive community assistance network in Orange County provides interactive modules addressing the legal issues which self represented litigants often find themselves working through. It saves money and time for under funded legal aid centers. As of 2016, approximately 4,000 pleadings a month were produced in seven (7) states. It utilizes the combination of 5th grade literacy content, interactive questions and answers and video guide that enable users to answer a multiple choice and fill-in-the-blanks interview. In this capacity, the user is guided through the process of completing court forms.
  - A robot lawyer powered by AI created by DonotPay was supposed to help a defendant fight a traffic ticket in court but the experiment was scrapped due to protests from the State Bar Prosecutors.

# Global Overview of Integrating AI in Court Processes :

- **China: (Smart Courts)**
  - A Smart Court is not necessarily a court where everything is completely automated, with a self-learning ‘robot judge’ adjudicating over cases independently from any human interference. It is court where judges use software applications to conduct judicial process in digital environment.
  - In Hangzhou, the **‘Xiao Zhi’** robot judge has been used to adjudicate a private lending dispute, helping the human judge conclude the case in under 30 minutes. ‘Xiao Zhi’ is able to assist judges in real time with live summarization of arguments, evaluation of evidence, and award recommendation. However, It is important to emphasize that at the time of writing, while there are some AI judge programs in pilot testing, these are under close human judge supervision, and no court decisions are implemented without human approval.

# Global Overview of Integrating AI in Court Processes :

- **Brazil:**

  An AI tool called **VICTOR** is being used to conduct preliminary case analysis using document analysis and natural language processing tools. This accurately identifies issues of 'general repercussions'. This concept ensures that only questions that are truly relevant to wider society are heard by the court and exclude appeals that reflect only the unsuccessful party's unwillingness to accept defeat.

**Positives**:

The work that takes 40 minutes for civil servants to do, can be completed in 5 seconds using VICTOR.

**Negatives** :

It may lead to distortion as it only searches for certain terms that may mistakenly frame resources within the general.

# Global Overview of Integrating AI in Court Processes :

- **Other countries:**
  - In **Colombia**, a tool called **PROMETEA** has been used in the Constitutional Court to predict the outcome of cases. This tool is used to predict a solution to a court case in less than **20 seconds** with a **96% success rate**. It also helps identify urgent cases from large volumes of files in just 2 minutes whereas it would take a human 96 days.
  - In **Singapore,** a **Speech Transcription System (STS)** has been developed for State Courts for transcribing of oral evidence and delivery.
  - An AI-backed **Interactive Case Registration** service **(ICR)** has been rolled out at **Abu Dhabi** to the court users to determine type of lawsuit, the competent court, applicable fees.
  - In **Estonia**, **SALME**, a speech recognition tool has been introduced to court to simplify and optimise court sessions' transcription with 92% precision.

**Case Laws** :

- Commissioner of Customs, Bangalore Vs. Acer India (P) Ltd. (2008) 1 SCC 382
- Shreya Singhal Vs. UOI - (2015) 5 SCC 1
- Justice K.S.Puttaswamy (Retd.) Vs. UOI – (2017) 10 SCC 1
- Swapnil Tripathi Vs. Supreme Court of India – (2018) 10 SCC 639
- Praveen Arimbrathodiyil Vs. UOI – W.P.(C) No.9647 of 2021 Kerala High Court. [Transferred to Delhi High Court – W.P.(C)No.3125 of 2021 – Foundation for Independent Journalism Vs. Union of India]
- Hewlett Packard India Sales Private Limited (Now HP India Sales Private Limited) Vs. Commissioner of Customs (Import), Nhava Sheva – (2023) 7 SCC 799

Commissioner of Customs, Bangalore
Vs.
Acer India (P) Ltd., [(2008) 1 SCC 382]

**Para 17** :

**17.** We have referred to *Wikipedia*, as the learned counsel for the parties relied thereupon. **It is an online encyclopædia and information can be entered therein by any person and as such it may not be authentic**……

# Shreya Singhal V. Union of India
*(2015) 5 SCC 1*

- In this case, Sec.66A, IT Act was challenged on the ground that it caused the net very wide – 'all information' that is disseminated over the internet is included within its reach. Held that Sec.66A is derogative to Art.19 (1) (a) of the Constitution and as such it is an arbitrary provision which breaches the rights of citizens to have freedom of speech and expression of their views on 'internet'.
- The court also considered the 'chilling effect' on speech caused by vague and overbroad statutory language as rational for striking down the provision.
- The Apex court however upheld the constitutionality of Sec.69A of the IT Act which provides for a system for blocking of information online by way of an order from a member of central government as a safeguard provision.

# Justice K.S.Puttaswamy (Retd.) V. Union of India *(2017) 10 SCC 1*

- This landmark judgement locates privacy in the grand sweep of democracy and within the core values of autonomy, dignity and freedom.
- While upholding the right to privacy as a fundamental right, it elaborately talked about informational privacy in the 'era of ubiquitous dataveillance'. – para 300 - 328
- 'As data travels in the speed of light, it is non rivalrous, invisible and recombinant' - Right to be forgotten, right to identity, right to control dissemination of personal information were also upheld.
- It was observed that balance between data regulation and individual privacy raises complex issues requiring delicate balances to be drawn between legitimate concerns of state on one hand and individual privacy on the other.

# Swapnil Tripathi v Supreme Court of India
*(2018) 10 SCC 639*

- The Supreme Court observed that public trial in open court is undoubtedly essential for the healthy, objective and fair administration of justice and held that the proceedings of constitutional importance having impact on public at large or large number of people to be livestreamed.
- In the words of Bentham, ‘In the darkness of secrecy, sinister interest and evil in every shape have full swing. Only in proportion as publicity has place can any of the checks applicable to judicial injustice operate. Where there is no publicity there is no justice.’ ‘Publicity is the very soul of justice. It is the keenest spur to exertion and the surest of all guards against improbity. It keeps the judge himself while trying under the trial (in the sense that) the security of securities in publicity’.

# Praveen Arimbrathodiyil v. Union of India *[WP (C) No. 9647 of 2021] Kerala High Court*

- Public interest petition filed challenging certain provisions of the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021 through which the Government aims to control internet streaming services, social media intermediaries, digital news outlets through these regulations as the intermediaries are compelled to provide the former with details of person who sent the offensive communication. The petitioner through the petition (supra) contends that this amounts to violation of the right to privacy under Article 21 of the Constitution.
- Hon'ble Supreme Court vide order dated 22.03.2024 in Transfer Petition (Civil) Nos.997-1000 of 2021 has transferred all petitions relating to this issue to the Delhi High Court and all petitions are currently pending before the Delhi High Court [Foundation for Independent Journalism Vs. Union of India – W.P.(C)No.3125 of 2021].

# Hewlett Packard India Sales Private Limited (Now HP India Sales Private Limited) Vs. Commissioner of Customs (Import), Nhava Sheva [(2023) 7 SCC 799]

**Para 14 :**

**14.** At the outset, we must note that the adjudicating authorities while coming to their respective conclusions, especially the Commissioner of Customs (Appeal) have extensively referred to online sources such as Wikipedia to support their conclusion. While we expressly acknowledge the utility of these platforms which provide free access to knowledge across the globe, but we must also sound a note of caution against using such sources for legal dispute resolution. We say so for the reason that these sources, despite being a treasure trove of knowledge, are based on a crowd-sourced and user-generated editing model that is not completely dependable in terms of academic veracity and can promote misleading information as has been noted by this court on previous occasions also. [*Commr. of Customs* v. *Acer India (P) Ltd.*, (2008) 1 SCC 382, para 17] The courts and adjudicating authorities should rather make an endeavour to persuade the counsel to place reliance on more reliable and authentic sources.

# THANK YOU