



JOINT TECHNOLOGY COMMITTEE
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JTC Resource Bulletin

Introduction to AI for Courts

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Abstract

Many court technology systems today are leveraging some forms of AI. However, there are many more use cases where AI technologies might advantageously be brought to bear in the court setting. Simultaneously, there are AI related concerns of which court managers should be aware and there are multiple policy considerations.

Document History and Version Control

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The Joint Technology Committee is a nexus that provides trusted and actionable thought leadership, guidance, education and training for court use of technology to enhance administration and access to justice.

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Executive Summary

Artificial Intelligence (AI) is becoming pervasive on a global scale and is directly impacting our lives and workplaces. Every Internet search, Siri response, ride share ride, banking transaction, etc. is made easier, cheaper, faster, and more convenient through technologies encompassed in the term AI. AI is the new “normal.” Many court technology systems today are already using some forms of AI. However, there are many more use cases where AI technologies might advantageously be brought to bear in the court setting. This paper explains AI basics for non-technical court personnel.

AI Technologies

AI encompasses a broad range of technologies, some of which are already so widely accepted (e.g., spell check/grammar check) that they are often no longer included in the growing list of AI-enabled applications. A single system may leverage one or more AI technologies, e.g.,

Visual Perception

Facial Recognition Technology (FRT), radar, Light Detection And Ranging (LiDAR) and ultrasonic sensors give machines visual perception - the ability to sense and interpret objects.

Application: Archaeology, aircraft (drones), mapping systems, mining, agriculture, scanning, robotic vacuum cleaners, self-driving cars, etc. Judges in Marion County, Oregon sign into court systems via facial recognition.

Optical Character Recognition

Electronically capturing information from typed, handwritten or printed text is Optical Character Recognition (OCR).

Application: USPS mail routing, online check deposit. In Palm Beach County, Florida and in Tarrant County, Texas, OCR is being used to scan incoming e-filed documents to docket them automatically.

Natural Language Processing

Digital assistants like Alexa, Siri, and Google Assistant use Natural Language Processing (NLP) in a conversational interface to extract meaning from human speech. This also includes automated translation services.

Application: chatbots. For example, JIA, the New Jersey courts' chat bot (Judiciary Information Assistant), leverages AI to respond appropriately to increasingly complex questions. In the Los Angeles County Superior Court, the chatbot “Gina” can assist with a variety of traffic court services in multiple languages. The New Mexico courts

have also improved public access to the judicial system by creating a virtual assistant (Clara) who is positioned to help self-represented litigants find the resources they need.

Symbolic AI

Symbolic AI closely reflects classic legal reasoning: step 1, write down all the rules; step 2, apply relevant rules to individual fact patterns to reach a conclusion.

Application: Legal navigator websites like [Florida Law Help](#) and [Colorado Resource Network](#) for senior citizens.

Machine Learning

Humans define a business goal and present a set of known cases or data to train the system, then computers determine the optimal algorithms to achieve the goal.

Application: helps New Jersey’s chatbot respond to an increasingly broad range of inquiries. Several courts are exploring the potential to identify “red flags” in guardianship/conservatorship cases, triage cases for automated case management, and provide mediation suggestions.

Generative Artificial Intelligence

Humans provide data to train a model. Data can be in the form of text (both written and computer native), images, and even videos. Once the model is trained, humans can ask the model questions related to the data upon which it was trained. Humans can also ask the model to generate additional data based on the trained model. A commonly known example of generative AI is the use of ChatGPT in developing responses to a variety of questions, using natural language processing to create humanlike conversational dialogue. The language model can respond to questions and compose various written content, including articles, essays, emails, social media posts, images, music, and code. In fact, ChatGPT and Co-Pilot (MS Bing with GPT-4) have contributed to the revision of this JTC Resource Bulletin.

Where are humans in “the loop”?

Since no automated process is perfect, the risks associated with AI systems are mitigated through a variety of automation strategies that define human oversight.

Human-in-the-loop	no response/decision without human involvement
Human-on-the-loop	humans can override an automated action before it occurs
Human-out-of-the-loop	systems learn from users and deliver automated responses

Where are courts in “the loop”?

Courts are using AI to handle repetitive processes like auto-docketing and to deliver higher quality, more efficient service to the public through chatbots. Court-specific examples include efilings/auto-docketing, access to justice chatbots, courthouse wayfinding, biometric identification, online dispute resolution, etc.

Beyond Efficiency

AI tools can eliminate or streamline many manual processes, allowing the same number of staff to better serve more members of the public. AI can also help identify previously unobserved correlations more efficiently. In light of court staffing shortages as a result of the COVID pandemic and the great resignation, AI tools may assist court managers with workload coverage.

Common Sense and Ethics

Caution is important with the use of AI. Before deciding which human processes to offload onto AI-enabled systems, planners should consider both how the AI system could produce errors, and how consequential those errors could be. The US [Department of Defense \(DoD\) Ethical Principles for AI](#) could be applied to court uses, as well.

Additionally, courts should carefully consider what data is best used to train artificial intelligence models. Court data governance regarding the privacy and security of data also apply to data used to train AI models.

Conclusion

Artificial Intelligence is helping courts do some things that humans do, only better and faster. Courts that are leveraging AI effectively are starting small, building both confidence and expertise while ensuring that appropriate privacy and security controls are in place.

Introduction

The purpose of this paper is to explain AI basics for non-technical court personnel to help facilitate conversations with technology providers, as well as to identify current and potential beneficial court uses.

Artificial Intelligence (AI) is becoming ubiquitous in our professional and personal lives. AI refers to the capacity of machines to perform tasks that are typically associated with human decision-making.¹ AI can be used in many applications, including chatbots, virtual assistants, and language translation. AI can also be used to analyze large amounts of legal data to help lawyers identify precedents in case law, enable administrators to streamline clerical and judicial processes, and support judges with predictions on issues including criminal sentence duration and risk assessment recidivism scores.² However, the use of AI in the legal system raises ethical questions, such as the accuracy of the generated content and the potential for bias.³ Although AI is a regular feature of current news and social media posts, the concept of AI is essentially as old as computers. When reel-to-reel tape and punch-card computers became available in the 1950s, scientific thought leaders and sci-fi fiction authors alike were contemplating the use of machines to simulate human thinking. Even so, the prevalence of AI in ordinary daily life today would likely impress the most visionary of those thought leaders.

Every Internet search, Siri/Alexa response, Amazon Prime purchase, streaming suggestions, airline flight, and rideshare is made easier, cheaper, faster, more accurate, and more convenient through technologies encompassed in the term “AI.” There are many types and applications of AI. Most customer service call processing centers use some form of *Speech Recognition* and *Natural Language Processing* (NLP) to route callers to the right resources. Algorithms can better predict outcomes and trends using *Machine Learning*. Even paper processes including “snail mail,” paper bank checks, and hardcopy tax filings are processed by *Optical Character Recognition*. AI is the new “normal”: it is already routine and ubiquitous in the lives of most Americans. The applications and importance of AI in all aspects of our lives is expected to grow rapidly over the next few decades.

Many court technology systems today are already leveraging one or more types of AI. However, there are many more use cases where AI technologies might advantageously be brought to bear in the court setting.

¹ [How to improve technical expertise for judges in AI-related litigation \(Brookings\)](#)

² [AI and the Rule of Law: Capacity Building for Judicial Systems \(UNESCO\)](#)

³ [AI and a Judge’s Ethical Obligations \(American Bar Association\)](#)

AI Technologies

AI encompasses a broad range of technologies. “AI is an ocean.”⁴ At the same time, many AI-enabled applications like spell check/grammar check and Internet search technologies are so widely accepted that they are often no longer included in the growing list of AI-enabled applications.

A single system may leverage one or more of those technologies. The following is a brief overview of some of those use cases, arranged roughly by AI subspecialty.

Visual Perception

Multiple technologies including Facial Recognition Technology (FRT), radar, Light Detection And Ranging (LiDAR) and ultrasonic sensors give machines visual perception - the ability to sense and interpret objects. Millions of households use robotic vacuum cleaners with sensors and mapping capabilities that help the vacuums navigate around obstacles like couches and puppies while effectively cleaning floors. Additional applications include archaeology, aircraft (drones), mapping systems, mining, agriculture, and scanning. Much less common but probably more often discussed are self-driving cars, which use a combination of visual perception technologies to avoid obstacles including pedestrians, road hazards, and other cars.

High end hotels and casinos use facial recognition to identify and greet wealthy patrons as well as problem gamblers. Most smartphone manufacturers now employ facial recognition and/or biometric authentication mechanisms to help users quickly confirm financial transactions and easily unlock their phones without entering a code. The same technology powers popular social media and photo management software features that automatically tag photos. Law enforcement agencies are now using a controversial app called Clearview AI⁵ that combs through billions of images scraped from social media sites and gathered from DMV photo records to identify unknown individuals. Clearview AI was sued by the American Civil Liberties Union (ACLU) in 2022. They reached a settlement where Clearview agreed to limit its face database in the United States to mainly government agencies, forbidding most companies in the U.S. to access it.⁶ The app has also already solved crimes ranging from credit card theft to child sexual exploitation and murder.

⁴ Interview with Siva Appavoo, New Jersey Courts. 18 February 2020.

⁵ [Hill, Kashmir, “The Secretive Company That Might End Privacy as We Know It”. *New York Times*. 18 January 2020. Web.](#)

⁶ Mac, Ryan and Kashmir Hill, “Clearview AI settles suit and agrees to limit sales of facial recognition database.” *New York Times*. May 9, 2022. Web.

London Metropolitan Police are deploying facial recognition cameras in key locations to help identify wanted suspects and missing children.⁷ Judges in Marion County, Oregon sign into court systems via facial recognition, improving security as well as efficiency: password issues no longer cause delays.⁸

In March of 2022, the Westchester Police Department arrested a suspected drug dealer by using AI to comb through hundreds of license plate reader images to identify vehicles that travel in a suspicious fashion.⁹

AI visual perception technology has been used in trial courts to assist judges and lawyers in various ways. One example is the use of algorithms that can learn how to distinguish one person from another using facial features, similar to how a human analyst would.¹⁰

Optical Character Recognition

One of the oldest AI technologies, Optical Character Recognition (OCR) is the electronic process used to capture information from typed, printed, or handwritten text. Its origins date to the early 20th century in "reading machines" for the blind and a device used to encode telegraph messages.¹¹ The United States Postal Service has used OCR, not humans, to sort mail for at least ten years.

Smartphone banking apps use the same underlying technology to capture information from paper checks deposited digitally. Increasingly sophisticated OCR now deciphers handwriting to glean the payee and amount, as well as bank routing code and account number information encoded along the bottom of paper checks – the few that are still being written. Indeed, OCR is one of those AI technologies that has become so ubiquitous many experts no longer consider it AI.

In Palm Beach County, Florida and Tarrant County, Texas, OCR is being used to scan incoming e-filed documents to docket them automatically. The system verifies the case number and extracts and captures the document title with other required information that is then passed automatically to the court's case management system.

⁷ "Croydon: Met Police to continue facial recognition despite concerns." [Croydon: Met Police to continue facial recognition despite concerns \(bbc.com\)](#). 12 February 2024.

⁸ Email correspondence with Roger Rand, Multnomah County Circuit Court IT manager, 18 March 2020.

⁹ [Brewster, Thomas, "This AI Watches Millions Of Cars Daily And Tells Cops If You're Driving Like A Criminal". Forbes. 17 July 2023. Web.](#)

¹⁰ [Using Artificial Intelligence to Address Criminal Justice Needs \(National Institute of Justice\)](#)

¹¹ [Schantz, Herbert F. \(1982\). "The history of OCR, optical character recognition." \[Manchester Center, Vt.\]: Recognition Technologies Users Association. ISBN 9780943072012. Internet Archive.](#)

Some commonly used AI-based OCR tools are Nanonets OCR API, Tesseract, Ocular, SwiftOCR, Power Automate, and Calamari 2.¹²

The Nanonets OCR API uses state-of-art AI algorithms that allow the design of custom OCR models. Data can be uploaded, annotated, and the model can be trained easily and seamlessly integrated with existing systems.

Natural Language Processing

Digital assistants like Alexa, Siri, and Google Assistant use Natural Language Processing (NLP) in a conversational interface to extract meaning from human speech. NLP also facilitates text-based language assessment, for example, email spam filters and grammar/spell-check features. Automated customer service, language translation apps, search engines, and virtual assistants all use NLP.

Speech recognition is only the first step in facilitating a conversation. Accurately assessing meaning in human speech (and human-created text) requires the ability to interpret slang and sarcasm, analyze emotion, and detect cultural nuances. Statements that appear to be superficially identical can mean very different things; to initiate the appropriate response (and/or avoid delivering a completely inappropriate response), chatbots and other NLP tools must be able to discern context. For example, “I don’t know what you are talking about” could mean either “I don’t understand” or “you are mistaken.”

Sophisticated language processing capabilities including sentiment analysis and automated summarizing are being employed in some Online Dispute Resolution (ODR) apps to help de-escalate interactions between parties. For example, the [Our Family Wizard app](#) is a co-parenting app that helps separated or divorced parents manage their parenting schedules, shared expenses, and communication in a more organized and structured way. It can flag problematic language in written communications between the parents and suggests revisions that may be less likely to offend. NLP capabilities are frequently used in phone-based customer service apps, and text-based chat bots are becoming increasingly common. Since text is the preferred communication mechanism for some demographics,¹³ text chatbots could become particularly effective tools for courts.

One example is the use of ChatGPT, an AI text generator, to query large amounts of information to assist judges with efficiently researching legal questions when making decisions. A judge in India used ChatGPT to decide bail in a murder case.¹⁴

¹² [What is Legal OCR and Why Do Legal Teams Need It in 2024? \(Nanonets.com\)](#)

¹³ See Amanda Mull, “Talk to People on the Telephone – It’s time to start calling your friends again.” *The Atlantic*. 16 September 2019. [Why Phone Conversations Are Better Than Texting - The Atlantic](#).

¹⁴ Pundir, P. (2023). This Court Used ChatGPT to Decide Bail in a Murder Case. *Vice*. Retrieved from

Another judge in Cartagena, Colombia used ChatGPT to pose legal questions about a case and included its responses in his decision, according to a court document dated January 30, 2023.¹⁵ The same document emphasizes that the purpose of including the AI generated text was not to replace the judge’s decision but to optimize time spent researching and drafting the judgement. As the use of generative AI by judges and lawyers is increasing, guidance is being issued through ethics opinions. The Judicial Investigation Commission in West Virginia issued West Virginia Advisory Opinion 2023-22 emphasizing that “a “judge should **NEVER** use AI to reach a conclusion on the outcome of a case” “because of the perceived biases that may be built into the program.”¹⁶ Another example is the use of chatbots to augment court self-help services. The California Judicial Council has approved the use of automated chatbots to help people navigate the court system and access legal information.¹⁷

These AI applications and more may be enabled with one of two “learning” approaches: Symbolic AI, the dominant AI strategy for over 30 years, or Machine Learning, which is becoming increasingly common in today’s systems.

Symbolic AI

Expert systems leverage ontologies that define the meaning and relationship of things (think: tagging) and algorithms, or step-by-step procedures for arriving at an answer, applying business rules deductively to new cases. Symbolic AI is the most familiar and therefore comfortable to the courts because it closely reflects classic legal reasoning: step 1, write down all the rules; step 2, apply relevant rules to individual fact patterns to reach a conclusion.

Courts today use Symbolic AI in guided questionnaires for document generation (decision trees based upon business rules), workflow engines for automating case management, most risk/needs instruments, and new legal navigators like [Florida Law Help](#) and [Colorado Resource Network](#) for senior citizens.

Machine Learning

In machine learning (also referred to as inferential AI), humans define a business

<https://www.vice.com/en/article/ak3dzk/india-court-chatgpt-bail-murder-case>

¹⁵ Greenberg, A. (2023). Judge Used ChatGPT to Make Court Decision. Vice. Retrieved from <https://www.vice.com/en/article/k7bdmv/judge-used-chatgpt-to-make-court-decision>

¹⁶ West Virginia JIC Advisory Opinion 2023-22, October 12, 2023, p. 4 (https://www.courts.wv.gov/sites/default/pubfiles/mnt/2023-11/JIC%20Advisory%20Opinion%202023-22_Redacted.pdf).

¹⁷ Judicial Council of California. (n.d.). Council Hears Reports on Use of Chatbots, Pretrial Release Tools; Approves Updated Courthouse Building. California Courts. Retrieved from <https://newsroom.courts.ca.gov/news/council-hears-reports-use-chatbots-pretrial-release-tools-approves-updated-courthouse-building>

goal and present a set of known cases or data to train the system, then computers determine the optimal algorithms to achieve the goal. Inferential AI is inductive: computers calculate probabilities, like IBM's Watson playing *Jeopardy* or AI tools used in healthcare to detect harmful bacteria in blood or malignancies in mammograms. Inferential AI is succeeding because of the availability of Big Data (i.e., extremely large data sets that may be analyzed computationally to reveal patterns, trends, and associations, especially relating to human behavior and interactions) and massive computing power enabled by artificial neural networks.

Several courts are exploring potential uses of Inferential AI to identify "red flags" in guardianship/conservatorship cases, triage cases for automated case management, and provide mediation suggestions for online dispute resolution. Others are gathering data to begin developing and training ODR tools that may not actually be implemented for several years.

Generative Artificial Intelligence

Generative AI can create new content, such as documents, legal summaries, artwork, music, or answers to questions based on unseen algorithms after being trained on large language models which in some cases is the content of the internet.¹⁸ Generative AI can also be used in trial courts to help lawyers and judges with various tasks. However, the use of generative AI in the legal system raises ethical questions, such as the accuracy of the generated content and the potential for bias. Humans provide data to train a model. Data can be in the form of text (both written and computer native), images, and videos.¹⁹ Once the model is trained, humans can ask the model questions related to the data upon which it was trained. Humans can also ask the model to generate additional data based on the trained model. A commonly known example of generative AI is the use of ChatGPT²⁰ in developing responses to a variety of questions using natural language processing to create humanlike conversational dialogue. The GPT stands for "Generative Pre-trained Transformer." The Generative Pre-trained Transformer uses specialized algorithms to find patterns within data sequences to formulate a response.

The language model can respond to questions and compose various written content, including articles, essays, emails, social media posts, images, music,

¹⁸ [Butler, Rabihah. "Generative AI and the courts: Balancing efficiency and legal obligations". *Thomson Reuters*. 28 August 2023. Web.](#)

¹⁹ META usage of video in AI training: <https://siliconangle.com/2024/02/16/meta-unveils-j-vepa-ai-model-improves-training-learning-video/#:~:text=Meta%20Platform%20Inc.'s%20AI,that%20humans%20understand%20the%20world>.

²⁰ The GPT stands for "Generative Pre-trained Transformer." The Generative Pre-trained Transformer uses specialized algorithms to find patterns within data sequences to formulate a response.

and code. In fact, ChatGPT as well as Co-Pilot (MS Bing Chat with GPT-4), have contributed to the revision of this JTC Resource Bulletin.

Although generative AI is an exciting progression in technology available to courts, specifically in terms of advancing administrative capabilities as well as improved access to justice, significant concerns exist which were recently highlighted in a study by a Yale University and Stanford University on the pervasive appearance of hallucinations in AI responses.²¹

In addition, there are concerns about whether using generative AI applications in courts may result in releasing data that may be otherwise confidential or not publicly available. It is important for court administrators to understand how AI applications are trained and to consider including requirements in RFPs for new technology that includes AI to safeguard court data.

Where are humans in “the loop”?

Since no automated process is perfect, the risks associated with AI systems are mitigated through a variety of automation strategies that define human oversight. Pim Haselager, Associate Professor at Radboud University in the Netherlands describes that oversight in three basic levels:²²

- human-in-the-loop
- human-on-the-loop
- human-out-of-the-loop

Broadly speaking, **human-in-the-loop** means no response or decision is delivered without some form of human involvement. That involvement may take the form of a human reviewing and approving a machine-generated response to a user question before the answer is delivered. The first step in “training” an AI system is often human “in-the-loop” until the system responds so accurately that the human no longer adds value.

On the other end of the spectrum of human involvement, systems learn from user questions, identifying correlations more efficiently than humans and delivering automated responses directly to the user, leaving humans **out-of-the-loop**. Between those extremes lie the bulk of current AI implementations: **human-on-the-loop** AI, where humans have the power to intervene and override an automated action before it occurs.

²¹ Stanford Institute for Human-Centered Artificial Intelligence (HAI). (n.d.). Hallucinating Law: Legal Mistakes by Large Language Models Are Pervasive. Retrieved from <https://hai.stanford.edu/news/hallucinating-law-legal-mistakes-large-language-models-are-pervasive>

²² Pim Haselager presentation at the 17th International Conference on Artificial Intelligence and the Law (ICAIL). Montreal (Quebec), Canada. June 2019.

Vehicle automation and chat bots help illustrate the variations possible in the implementation of AI.

Vehicle Automation

In the spectrum of vehicle automation, **human-in-the-loop** systems are “driver assist” features that warn of vehicle proximity to other vehicles/objects: following another vehicle too closely, sensing vehicles in the “blind spot” when making lane changes, warning of objects in the road, measuring space to the curb in parallel parking, etc. The driver receives information from the automation to take evasive action. In **human-out-of-the-loop**, the car is driverless and the vehicle fully autonomous. For example, Waymo, a self-driving technology company, uses **machine learning algorithms** to process complex data gathered from its advanced suite of car sensors, and deciphers what’s around it - from pedestrians to cyclists, vehicles to construction, and more.²³ The Waymo Driver also responds to signs and signals, like traffic light colors and temporary stop signs. Waymo’s self-driving cars use sensors like LiDAR to enable driver-free operations and 360-degree perception technology to identify obstacles.²⁴ Waymo’s self-driving cars are also equipped with sensors that constantly shoot out lasers that bounce back, telling the car precisely where other objects are located.²⁵



Illustration courtesy Chris Draper

Human “in the loop”	Human “on the loop”	Human “out of the loop”
No action taken without human action/affirmation.	Action taken unless a human intervenes.	Humans are not involved from input data to action.
“Driver assist” or partial automation strategies including lane change warnings, emergency braking, adaptive cruise control, and parallel parking assistance.	Autonomous vehicle design strategy SAE Level 3 or 4 ²⁶ , which requires the driver to continually monitor the system and take action to prevent a dangerous condition.	Autonomous vehicle design strategy SAE Level 5, which prevents the human from taking any action associated with driving the vehicle (e.g., cars built without steering wheels or brake pedals).

²³ <https://waymo.com/waymo-driver/>

²⁴ [Gopani, Avi. “All About Waymo’s AI-Powered Urban Driver”. *Analytics India Magazine*. 13 October 2021. Web.](#)

²⁵ [Stossel, John. “Self-Driving Cars Have Arrived. They Will Make Us Safer.” *Reason Foundation*. 20 December 2023. Web.](#)

²⁶ [See SAE J3016 Levels of Driving Automation](#) at <https://www.sae.org/news/2019/01/sae- updates-j3016-automated-driving-graphic>

Chatbots

A chatbot (chat+robot) is software that simulates human conversation. Customer service organizations, including courts, often use chatbots to provide initial customer service or technical support. Interacting with humans via voice or text, chatbots today help people make appointments with medical providers, reset system passwords, evaluate cell phone data plans, and much more. Like the variations of technology used to improve driver safety, chatbots can be implemented in ways that involve humans to varying degrees - in, on, and out of “the loop.”

Human “in the loop”	Human “on the loop”	Human “out of the loop”
A messaging plugin mimics existing customer service question-response guidance. Or messaging software tags and filters user messages and suggests options that a human customer service representative chooses from to send a response to the customer.	The system’s experience creates new connections between questions and answers that were not previously interpreted to be related. Appropriate answers are delivered automatically; inappropriate answers can be prevented by a human overseeing the system.	3rd Generation Chatbots employ unsupervised machine learning in NLP routines that can automatically update language tags which define the effectiveness of the NLP being used. This type of chatbot is not in any broad commercial use as of 2020.

Where are courts in “the loop”

The use of algorithms in the justice space to predict recidivism and the likelihood of future violent offenses may be the most familiar and controversial uses of court AI. Much work remains to ensure those kinds of algorithms are unbiased and explainable. But AI isn’t just predictive. Courts are using AI to handle repetitive processes and to deliver higher quality, more efficient service to the public.

Automated Docketing

In Palm Beach County, Florida, AI-empowered software is classifying and docketing e-filed documents. The court started with three low risk/high volume case types, progressively expanding the variety and complexity of cases as they developed expertise with robotic process automation (RPA) technology. The bots – each with its own name and user login – classify incoming e-filings, extract info from tagged fields, and docket them in the court’s case management system. Today, multiple case types representing nearly a third of all Palm Beach County’s e-filed documents are being docketed automatically.

When the court first launched the system, humans double-checked 100% of the bots' work to verify accuracy (Human "in the loop"). That turned out to be more about reassuring the humans than about ensuring quality: the bots make fewer errors than human clerks and bot errors are ultimately an indication of a human programming/set up error. When errors are discovered and corrected (human "on-the-loop"), the robot never repeats the mistake (an accomplishment most humans could not claim). Today, humans review 15% of all filings, whether docketed by a human or a bot.

As the bots' human handlers have become more adept at using the software, the bots have been assigned increasingly complex work. Using "learning by example," the bots have been taught to recognize and handle some kinds of filings that have additional circuit requirements: the bots look up the judge assigned to those cases and automatically email relevant documents (human "out of the loop"). A similar use of AI to achieve automated docketing has been implemented in Tarrant County, Texas.²⁷

Legal Information/Assistance

New Jersey state courts are handling an increasing number of public inquiries using a chatbot they've named JIA (Judicial Information Assistant)²⁸. To build the system, court staff assembled Q&A pairs using website FAQs, standard operating procedures, manuals, and other existing information resources. Through a carefully phased rollout, the court has developed the necessary internal staff expertise while ensuring the quality and accuracy of information provided to the public.

To train and test the system, JIA was initially released to AOC central office staff only. Staff manually entered all call center inquiries without necessarily utilizing the answers JIA supplied (Human "in the loop"). On a daily basis, court staff reviewed a report of all inquiries and answers, adjusting JIA responses and adding question variations to train the system. When JIA was responding at an 80% accuracy level, the system was then released to more than 10,000 state court staff. Response accuracy again dropped to about 30% as state court staff asked questions the central office staff had not anticipated. Additional Q&A pathways were added until JIA was responding with 80% accuracy. The system was then added to the court's website making it live to the public (human "on-the-loop") without any kind of formal announcement. As the volume of text inquiries has increased, the court has seen a roughly corresponding decrease in the number of call center calls.

²⁷ [Tyler Technologies CSI Solution Demo at JCIT Meeting. Texas. 10 November 2023.](#)

²⁸ [Official Website of the New Jersey Judiciary | NJ Courts](#)

An earlier version of chatbot success with providing court navigation assistance to the public can be viewed in the Los Angeles County Superior Court. This urban jurisdiction uses the chatbot “Gina” to assist the public with a variety of traffic court services in multiple languages.²⁹ The New Mexico courts have also improved public access to the judicial system by creating a virtual assistant (Clara) who is positioned to help self-represented litigants find the resources they need. This chatbot is designed to be accessible by keyboard or through voice commands.³⁰

Beyond Efficiency

There are many AI tools which are both reliable and widely accepted, and the number and uses of such tools will continue to expand over time. While current AI tools still require significant, skilled human effort to set up and monitor, using these tools effectively and thoughtfully can significantly reduce overall workload and increase staff effectiveness. AI tools can eliminate or streamline many manual processes, allowing the same number of staff to better serve more members of the public. For example, Palm Beach County’s bots are now docketing about 12,000 filings/week - the work of 22 FTEs. Through attrition, the county has eliminated many entry-level positions, freeing up budget for better-paying, more skilled positions and giving greater emphasis to human interaction in more complex matters.

AI can also help identify previously unobserved correlations more efficiently. For example, one court used AI statistical modeling to analyze all traffic tickets for the last 15 years. The models revealed something unexpected: women were less likely to be cited than men for the same infraction, and when cited, were more likely to be offered a plea deal.³¹ Humans must ultimately interpret results and determine the appropriate action to take on AI-identified patterns.

Common Sense and Ethics

Caution is important in the use of AI. Before deciding which human processes to offload to AI-enabled systems, planners should consider both how the AI system could produce errors, and how consequential those errors could be. The risks associated with AI decision making are not fundamentally different than those of human decision making:

²⁹ <https://www.lacourt.org/division/traffic/traffic2.aspx>

³⁰ New Mexico Courts, virtual assistant “Clara” -

https://languageaccess.nmcourts.gov/?_gl=1%2A1hpcigb%2A_ga%2AMTM5NzA1NTkyOS4xNzA4OTAxOTMw%2A_ga_FK4K3XGHQG%2AMTcwODkwMTkyOS4xLjEuMTcwODkwMTk3MS4wLjAuMA

³¹ Personal communication, 18 February 2020.

- Both humans and AI make decisions based on the data they are provided.
- Both humans and AI ingest a wide range of data types and sources, continually refining their assumptions and conclusions.
- Based on their experience, both humans and AI develop “biases” (i.e., predictions that appear inequitable) and “intuition” (i.e., biases that cast doubt on a prediction).

Yet AI can use its more scalable computational capacity to arrive at these outcomes more quickly. Human biases and intuition develop far more slowly and irreversibly based on inputs that are far harder to assess.

Everything that happens in the criminal-justice system involves a human in some way, and every time a human is involved, there’s always this potential for bias... We already have black boxes making decisions for us all the time, but they just happen to be sitting in black robes.³²

Ensuring appropriate, unbiased, ethical use of AI in the public sector is of grave concern. The US Department of Defense (DoD) recently developed and officially adopted Ethical Principles for AI:³³

1. **Responsible.** The Department’s personnel will exercise appropriate levels of judgment and care, while remaining responsible for the development, deployment, and use of AI capabilities.
2. **Equitable.** The Department will take deliberate steps to minimize unintended bias in AI capabilities.
3. **Traceable.** The Department’s AI capabilities will be developed and deployed such that relevant personnel possess an appropriate understanding of the technology, development processes, and operational methods applicable to AI capabilities, including with transparent and auditable methodologies, data sources, and design procedure and documentation.
4. **Reliable.** The Department’s AI capabilities will have explicit, well-defined uses, and the safety, security, and effectiveness of such capabilities will be subject to testing and assurance within those defined uses across their entire lifecycles.
5. **Governable.** The Department will design and engineer AI capabilities to fulfill their intended functions while possessing the ability to detect and avoid unintended consequences, and the ability to disengage or deactivate deployed systems that demonstrate unintended behavior.

³² [Sharad Goel, as quoted by Derek Thompson in “Should We Be Afraid of AI in the Criminal- Justice System? Many states and cities are putting Americans’ fates in the hands of algorithms.” *The Atlantic*. 20 June 2019. Web.](#)

³³ [See US Department of Defense Adopts Ethical Principles for Artificial Intelligence.](#)

These principles are not unique to the DoD. Indeed, they could be applied to any public sector organization including courts.

On October 30, 2023, President Biden signed an executive order on the safe, secure, and trustworthy development and use of artificial intelligence (AI).³⁴ The order aims to guide responsible AI development and deployment through federal agency leadership, regulation of industry, and engagement with international partners.³⁵ The order establishes a government-wide effort to govern the development and use of AI safely and responsibly, and is therefore advancing a coordinated, Federal Government-wide approach to doing so.

Similar discussions are occurring among courts globally. For example, the UK judiciary issued a set of guidelines to assist judges in effectively understanding and implementing Artificial Intelligence (AI) in their job functions,³⁶ a first step in a proposed suite of future work to support the judiciary in interacting with AI.³⁷ The guidance document emphasizes the need to be aware that the public versions of these tools are open in nature and therefore that no private or confidential information should be entered into them. All work will be reviewed with a human in the loop as technology continues to develop.³⁸

Conclusion

Artificial Intelligence is helping courts perform some functions that humans do, only better, faster, and at a lower cost. AI technologies are developing quickly and have the power to improve decision making, reduce bias, and summarize information to make it timelier and more accessible to courts and the public they serve.

While significant efficiencies can be gained by moving away from manual or human-in-the-loop processes, it is important to note that it is currently impossible (not to mention undesirable) to completely remove humans from systems. That said, each method of human oversight carries its own challenges. While human-on-the-loop AI systems may feel “safer” because a human could/should catch mistakes, how the human engages with the system can significantly impact the quality of this control. For example, if a human is tasked with passively monitoring a self-driving car as it navigates traffic

³⁴ [Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence. 30 October 2023.](#)

³⁵ [Highlights of the 2023 Executive Order on Artificial Intelligence for Congress. 17 November 2023.](#)

³⁶ [Artificial Intelligence \(AI\) Guidance for Judicial Office Holders. 12 December 2023.](#)

³⁷ [Judicial Guidelines for Use of Responsible AI in UK Courts. Pearl Cohen Zedek Latzer Baratz.](#)

³⁸ [Judkins, Andrew. “UK publishes official guidance to judiciary on use of AI”. Norton Rose Fulbright. 13 December 2023. Web.](#)

unassisted, it would be almost impossible for that individual to remain focused enough to notice and respond to a pedestrian jay-walking.³⁹ Alternatively, if a human has the ability to override system decisions without any check on the human's biases, repeated overrides could fundamentally alter the AI system's quality. AI systems must be continually monitored, trained, and optimized – just like human processes – to ensure appropriate outputs.

Courts that are leveraging AI effectively are starting small, building both confidence and expertise. They are offloading repetitive tasks and business processes to AI, freeing people up to do what people do best, which includes understanding complex emotional and social nuances, abstract thinking, moral reasoning, and ethical judgment (skills that AI cannot replicate with the same depth or sensitivity).

Some courts are also using AI to discover and analyze patterns in existing processes, predict future patterns, and develop innovative tools to deliver aspirational improvements in the justice process. Of course, the anticipated justice process improvements are predicated on AI that is learning from existing court data. This reality makes it essential for judges and court employees to renew efforts to improve data accuracy and data integrity within each jurisdiction.

For more information, contact NCSC at technology@ncsc.org.

³⁹ [Lee, Dave. "Uber Self-Driving Crash 'Mostly Caused by Human Error'." *BBC News*. 20 Nov. 2019, Web.](#)