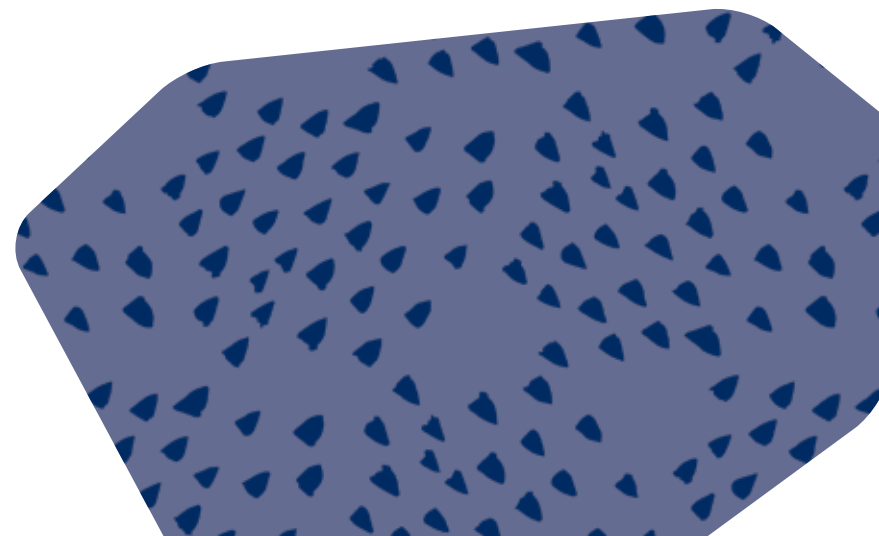# NEC
DIGITALSTUDIO

The role of AI in the human world of justice

How AI and automation can help criminal justice teams to boost productivity, make informed decisions and provide personalised support.

Made for Life.

Contents

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Our software helps users across criminal justice to provide the care and experience required to turn lives around.

As part of the global tech giant NEC Corporation, we're also at the forefront of cutting-edge developments in biometrics, 5G and AI.
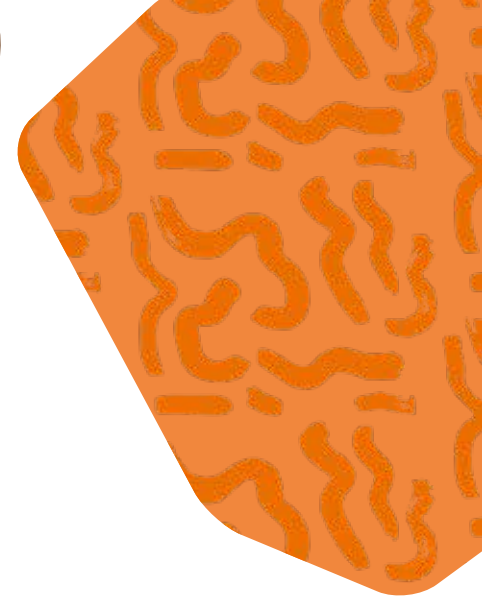
Introduction

The criminal justice system is the cornerstone of a fair, safe and prosperous society. We rely on our justice system to ensure communities are cared for, businesses operate honestly and people are held to account for their actions.

However, the justice system is under intense pressure.

Prisons are at bursting point, with **government forecasts** indicating that prison capacity will run out in early 2026, despite the recent early release of thousands of prisoners.

Meanwhile, the backlogs in both crown and magistrates' courts continue to grow according to **criminal court statistics**, causing traumatic delays for everyone involved.

At the same time, the sector is facing a recruitment crisis. A **Criminal Justice Joint Inspection report** highlights difficulties in hiring, training and retaining staff since the pandemic, leaving experienced professionals with overflowing workloads.

The people working in the sector do everything in their power to keep the wheels of justice turning in order to protect communities and prevent harm, but they are navigating heightened pressures on a daily basis.

These are very human problems in a human world, but AI has the potential to help.

A role for AI

With its ability to consume vast quantities of information and learn from it, AI can perform tasks which humans don't have the time or capacity to do.

Bringing AI into the justice system doesn't involve handing over responsibility to machines and letting them decide how to support a victim or rehabilitate an offender.

What we can do is to train computers to take on the role of a super colleague, one who has time to read through 20,000 case files, review thousands of hours of video footage or piece together the signs which point to a vulnerable child.

Having done the legwork, your AI super colleague hands over their results, so you can use your human skills to review the findings and make decisions.

Technology for today

These things are possible today, not sometime in the distant future. AI is already performing its super colleague role in the private sector, to help identify market trends, develop better products and deliver a personalised service to customers.

Of course, the justice sector is not a commercial organisation. This is why AI in justice must be tailored to the sector, and carefully monitored to support teams who deal with the most vulnerable people in our society.

With the justice system under strain, now is the time to harness the power of AI to help people work more effectively, turn mountains of data into valuable insight, and free up more time to support vulnerable citizens.

Mounting pressures on the justice system

Justice is not an easy sector to work in at the best of times.

But a tough economic and social climate is stretching the criminal justice system to breaking point, leaving professionals with escalating caseloads and fewer resources to manage them.

There are some key trends which are contributing to an already overloaded system.

Impact of economic hardship

Research commissioned by the Mayor of London suggests a 10% increase in the cost of living is associated with an 8% increase in crime.

A tough economic climate can affect communities where there are weaker social bonds and fewer educational and employment opportunities, causing pockets of crime to increase.

Rising prices, fuel poverty and unemployment place additional burdens on people who are already caught up in the justice system, and this can make it harder to make positive changes to their lives.

> **Frontline staff urgently need more face-to-face time with the people they support, to guide them through their rehabilitation and help them turn their lives around.**
>
> John Keane, former Frontline Probation Officer and leader in criminal justice technology.

> **Children and young people live their lives very differently to the way we lived ours, and social media places considerable demands on them, while they are still maturing and finding their own identity. This places a responsibility on us as adults to protect them.**
>
> Stephanie Roberts-Bibby, Chief Executive Officer,
> Youth Justice Board for England and Wales.

Changing nature of childhood

Unauthorised absence from secondary school is almost 80% higher than before Covid, according to the **Education Policy Institute**. When children disengage from education, they are at a greater risk from exploitation and crime.

Children and young people are spending more time online where there are few guardrails, making it harder for parents and teachers to protect them from harm.

Technology enabled crime

The **National Crime Agency** reports that serious and organised criminals are increasingly adopting cutting edge technology for fraud, child sexual abuse and trafficking. Criminals are using sophisticated tools, such as drones to deliver drugs into prisons, and malware to steal data or unleash cyberattacks.

Criminal uptake of new technologies happens faster than adoption within government and law enforcement, because offenders are not constrained by ethical, legislative, and procurement factors.

It is becoming more difficult to keep one step ahead of criminal organisations which have the skills and capital to invest in technology to use in crime.

Stretched labour market

A **2024 report** by the Criminal Justice Joint Inspectorate states: "Systemic issues with recruitment and retention across the criminal justice system are seriously impacting criminal justice agencies' ability to deliver a high-quality service to victims of crime."

Many frontline practitioners are seeking employment elsewhere or retiring early, and new recruits don't have as many experienced colleagues to turn to for training and mentoring.

"The best way to help people make positive changes to their lives is by building relationships with them, which takes experience. People who have worked in the probation service since the '80s and '90s have that experience, and when they leave, it's a great loss to the profession."

John Keane, former Frontline Probation Officer and leader in criminal justice technology.

Lack of information flow

Practitioners in the justice system collaborate with a range of different agencies, such as social services, community mental health workers and the NHS. With youth justice, this extends to police, schools, speech and language professionals, health workers, probation officers, social workers and foster carers, both criminal and family courts, and third sector delivery partners.

When each of these authorities uses different IT platforms or assessment tools, it can be difficult to exchange the information that's needed to provide a holistic view and make decisions that better support people. Valuable data is locked in different systems without a protocol to make it easy to share.

It is becoming increasingly urgent to give justice professionals the time and space to tackle these complex challenges. AI technologies can support the justice sector at this critical time. The key is to ensure AI in justice is applied ethically and responsibly, so it remains a force for good.

The real-world role of AI in criminal justice

The **AI Playbook for Government**, launched in early 2025, is designed to support government departments, arm's length bodies and public sector organisations using AI. The guide highlights the unparalleled opportunity to transform public services and deliver more with less.

AI is already having a positive impact in some areas of public services.

Predictive analytics are helping some police forces identify hotspots of trouble, so they can allocate resources more effectively. In health, an AI tool that uses image recognition is detecting heart disease up to 30 times faster than a human could. While some councils are using AI to spot cracks in the road that are likely to become potholes.

"A critical principle in using AI in justice is that people should make decisions, not machines."

Ian Porée, Justice Advisor and former Executive Director of HM Prison and Probation Service.

> **"If people are unsure how AI technology is used, they become suspicious and start asking 'Are you assessing me with AI?' or 'Is the computer judging me?' If you tell people why you're using it – to speed up form filling – they are more accepting."**
>
> John Keane, former Frontline Probation Officer and leader in criminal justice technology.

The opportunities for AI in justice are transformational, but there must be safeguards in place to ensure the technology works for people, and not the other way round. AI in justice must be:

Transparent

People receiving justice services need to know they are being treated fairly. It's important to be open with people if AI is being used, for instance if you use transcription technology to record a conversation or to summarise meeting notes.

Similarly, when working alongside colleagues, organisations and agencies, all parties should know that predictive analytics were used to identify a case which needs to be reopened.

> **If you have an algorithm which learns from every decision the professionals make, you have a chance of explaining how the AI is used to predict future harm.**

Ian Porée, Justice Advisor and former Executive Director of HM Prison and Probation Service.

Explainable

AI technologies are evolving rapidly, and are extremely complex, so it's not always easy to get beyond the 'black box' nature of AI, and question the output it provides.

Application developers need to keep clear audit trails which detail how the technology is trained and developed, so it can be independently checked. This helps organisations understand how their AI model has predicted a person is vulnerable, and why a case should be prioritised.

These explanations allow humans to make informed decisions about which actions to take.

Equitable

All AI systems learn from initial training data, and if that data contains bias, there is the possibility of that bias becoming embedded in AI models.

To avoid this happening, justice teams and AI developers should work together to conduct routine bias assessments, to detect inequalities in how people from different racial, ethnic and socioeconomic groups are treated.

> **We need to be acutely aware of the disparity we already see in society. It's really important to include appropriate representation from all protected characteristics and communities so the AI systems don't reinforce structural barriers and perpetuate inequality.**

Stephanie Roberts-Bibby, Chief Executive Officer, Youth Justice Board for England and Wales.

How AI can support justice teams

AI can help to relieve the pressure on the justice system, and free teams up to support people and improve outcomes. The following sections explore the areas where AI can help to solve some of the toughest problems in the very human world of justice.

Improve efficiency and productivity

With time at a premium and resources stretched, justice professionals shouldn't have to work through piles of paperwork. However, as caseloads pile up, so do the banks of data that go with them. One of the most effective uses of AI technology today is to help us make sense of those stores of data.

These are some ways justice teams can use AI to reduce their administrative burden.

Capture insight from conversations

Every conversation is important, but the human memory can't capture and recall each tiny yet potentially crucial snippet from a meeting. With AI technology, machines can not only record meetings, they can provide automated transcriptions, and detailed summaries noting all the key points.

To make the technology even more effective, organisations can refine their AI models to recognise terminology, situations and vocabulary which are specific to the justice system. This would help teams to gain richer insight from interactions with colleagues and partner agencies as well as service users.

> **When a probation officer is doing ten appointments a day, they want to focus on that time to guide people through their rehabilitation, not on entering information into a computer. AI can help to capture the key messages from a conversation, and ensure actions are followed up.**

John Keane, former Frontline Probation Officer and leader in criminal justice technology.

> **The argument for using AI to enhance the quality of work is compelling. If it can read 20,000 case files for me, pull out the areas of risk and need, and help me ask the right questions, then ultimately it is helping me make a difference to the lives of children.**
>
> Stephanie Roberts-Bibby, Chief Executive Officer, Youth Justice Board for England and Wales.

Make sense from data

Organisations hold a wealth of data ranging from records which contain historical information critical to a case, to video recordings used as evidence. However, there is always the risk something important could be missed.

AI is capable of taking ten years of records and providing a two page summary, something that would take a human many weeks to achieve. Similarly, an AI tool could review hours of video footage and swiftly identify the key person or location needed to move a case forward.

Support professional development

At a time of recruitment and retention challenges, the justice sector can adopt AI tools to assist with training and development. AI enabled courses which personalise learning are becoming well established in many business areas, but there are also opportunities to use AI as a coaching tool while learning on the job.

For instance, AI can take a policy document of several hundred pages and pull out the key processes to follow in a given situation. So instead of having to ask a busy colleague, or search through a lengthy document, a less experienced professional has some instant guidelines for the steps they need to take.

> **AI is very good at details which humans can miss. It could say, 'In your case notes you identified five risks or needs,' and ask, 'why, as a case manager do you only have actions for three of them? Do you plan to address the other two now?'**
>
> Ian Porée, Justice Advisor and former Executive Director of HM Prison and Probation Service.

Manage quality assurance

AI can help professionals work to the best of their ability by providing quality assurance which goes beyond looking at a snapshot of a team's performance.

As every assessment, interaction and case review is recorded, AI can monitor quality on an ongoing basis. This can help teams to highlight where changes in approach are needed, and identify best practice which can be shared across an organisation.

Using AI alongside quality assurance audits and frameworks can provide justice teams with the reassurance that they are delivering a high standard of service.

Build better relationships

Efficient working is only part of the story. AI can help people work better by filling in the gaps which the human mind isn't built to do. Rather than replacing skilled professionals, AI can help people use those skills more effectively, every day.

Predict and prevent harm

One of the greatest fears of any professional in the criminal justice system is that they will miss the clues which could have prevented a harmful incident. But the human mind is not capable of pulling together multiple clues from different sources in the way AI is trained to do.

The justice sector can use AI to spot patterns which emerge from data and use them to make predictions in the following ways.

Prioritise individuals at risk

Identifying an individual who is at risk is critical, because it signals the need to step in and intervene before that person becomes deeply immersed in gang culture, or is driven to reoffend.

The difficulty is that when a case manager is already overloaded, they don't always have the capacity to identify the hidden signs of risk.

AI can help by using data to assist with triaging, so case managers can see which people out of their large caseload need the most urgent attention.

> "The case prioritisation will depend on the particular focus of that public service. The police, for example, may prioritise public safety and imminent risk, but the social work team may be focused on the most vulnerable child in their care. AI could help busy case workers focus their time on the most pressing cases."
>
> Ian Porée, Justice Advisor and former Executive Director of HM Prison and Probation Service.

Identify vulnerable children

Multiple agencies work together to protect vulnerable children and young people from harm, and it is vital that these organisations are able to identify the signs of need and risk, so professionals can intervene early.

AI can uncover patterns from data which is stored in different places, to provide a holistic view of a child and their vulnerabilities. This can help justice practitioners, as well as frontline workers in health and education, to prevent children causing harm to themselves or others.

"There are often indicators of need and risk before a serious incident occurs. Take the example of a child who has been found in a high risk environment, such as a live railway track or motorway bridge, five times in the past three months. On each of these occasions a different adult has dealt with the child who by the behaviour they are demonstrating have a number of unmet needs.

If we could train systems to make connections between those events, spot the needs and risk early and alert the right people, a serious incident could be prevented. That would be game changing in terms of preventing loss of life, trauma to witnesses and harm to communities."

Stephanie Roberts-Bibby, Chief Executive Officer, Youth Justice Board for England and Wales.

> "Prisons have faced the rapid emergence of new threats, like for example the disruptive impact of new psychoactive substances. AI tools could help speed up the analysis of emerging threats to allow the organisation to be more responsive."
>
> Ian Porée, Justice Advisor and former Executive Director of HM Prison and Probation Service.

Address new threats

The justice sector is having to adapt rapidly to emerging trends in crime, such as money laundering and modern slavery, as well as finding new ways to tackle the old familiar threats of knife crime and anti-social behaviour.

There is also a growing incidence of AI enabled crime, according to the **Alan Turing Institute**, particularly in areas such as financial crime, child sexual abuse material, phishing and romance scams.

Law enforcement agencies are using technology to tackle these new threats head-on, and the justice system can also adopt AI to spot new and unusual patterns which could lead to harm.
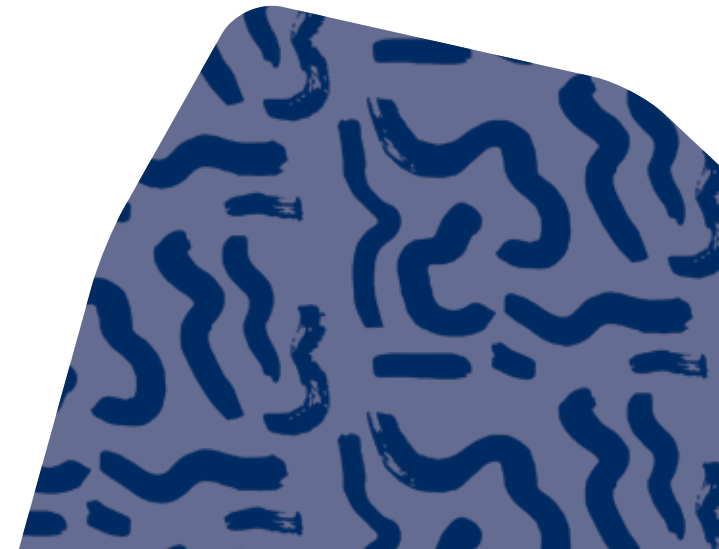
Support people at risk of reoffending

Individuals have to make positive changes in order to stop reoffending. Just one slip can put that person back on the road to crime. For instance, if someone on probation misses an anger management session, or moves into a household with people known to the police.

AI can learn from incidents and situations which have led to people reoffending in the past, and use this intelligence to predict future risk.

There are vast stores of data across different organisations like health and social housing as well as offender information which AI could learn from. The technology could help justice practitioners to make links and spot the signs of trouble early.

> **AI technology could help prison officers predict the triggers for violent incidents using historic data, and identify individuals who are most likely to be involved in prison violence on a particular day. With this information, officers can take preventative action, such as moving more experienced staff onto the wing.**
>
> Marco Fiorentino, Executive Director, NEC Digital Studio.

Support human decision-making

In the justice sector, every decision has an impact on a person's life, and sometimes that impact can be far-reaching. AI should never take on the role of decision maker. Instead, the technology can provide objective, evidence-based, neutral information on which humans can base their decisions.

AI can support human decision-making in a number of ways.

Simplify information sharing

The justice system relies on receiving information from a range of sources in order to make decisions. Each of those agencies has their own rules and protocols governing how they share information, which makes the process very complex.

As a result, people tend to err on the side of sharing less rather than more, to avoid disclosing information which should remain confidential. The risk is that an important piece of information remains hidden.

> " AI is very good in rules-based environments. Operational practitioners often struggle with the complex rules associated with information sharing protocols, sometimes limiting how much information is shared. AI could be used to accurately administer compliance with the information sharing protocols and improve sharing between public services. "

Ian Porée, Justice Advisor and former Executive Director of HM Prison and Probation Service.
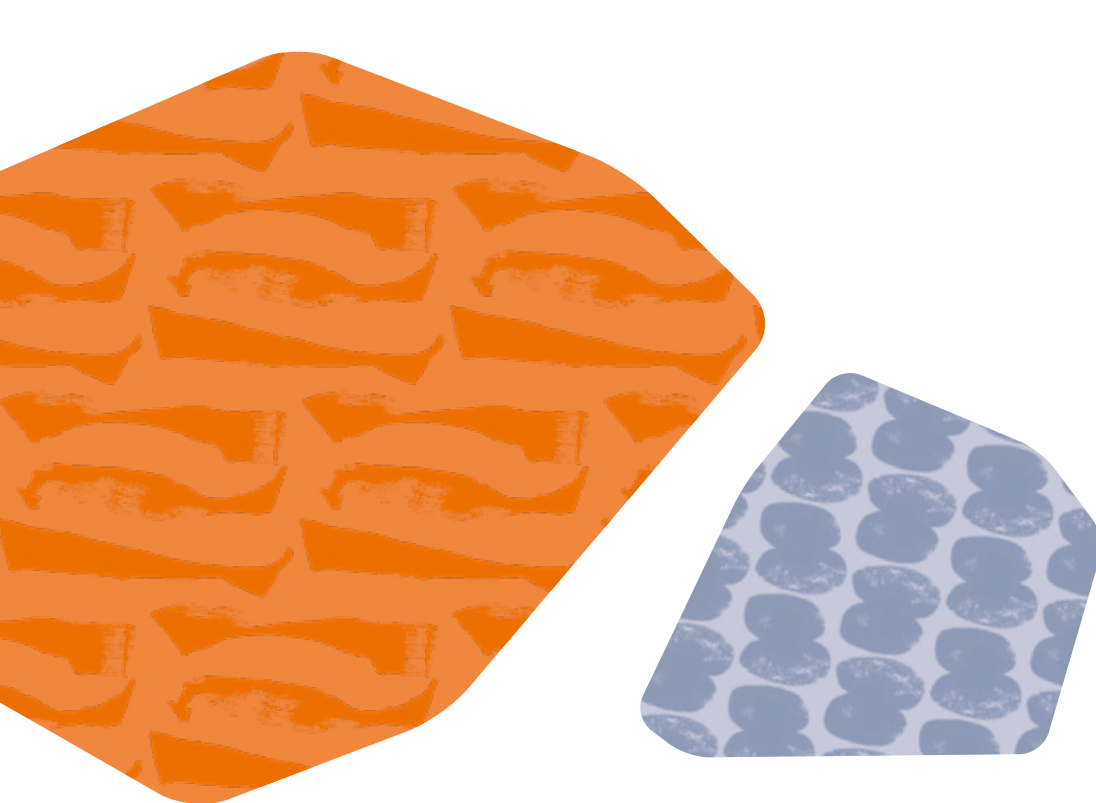
> **" When a child comes into contact with the youth justice service, the service does a sweep of everyone who has engaged with the child, and gathers a huge amount of paperwork from each. Technology which can separate the wheat from the chaff, and locate the golden nuggets of information would be transformational for youth justice practitioners. "**

Stephanie Roberts-Bibby, Chief Executive Officer, Youth Justice Board for England and Wales.

Provide insight for decisions

Decision-making will always be in the hands of a human, but all too often the humans don't have all the information they need to make an informed, fair and balanced decision. The data exists, but it is too difficult to find the key factors among the noise.

AI can be trained to sift through datasets and isolate the critical information and present it so the practitioner can see what the issues are, and decide how to address them.

Reduce unconscious bias

Unconscious bias happens when we unknowingly make judgements on the basis of assumptions, prior experience or personal thought pattern. It stops us being impartial, no matter how hard we try to be.

AI has been criticised for amplifying bias, but this only happens when it perpetuates existing bias from data created by humans. The technology itself is agnostic to race, gender, age or socioeconomic status.

AI can be trained on representative datasets, and taught to disregard identifying characteristics so that algorithms don't replicate discriminatory patterns. This enables the output from AI to help humans make fairer and more objective decisions.

" Ethical consideration around using AI really matters, but we should also remember that as humans we are also vulnerable to bias. If implemented thoughtfully, AI can help better understand the impact of human bias in important decisions. "

Ian Porée, Justice Advisor and former Executive Director of HM Prison and Probation Service.
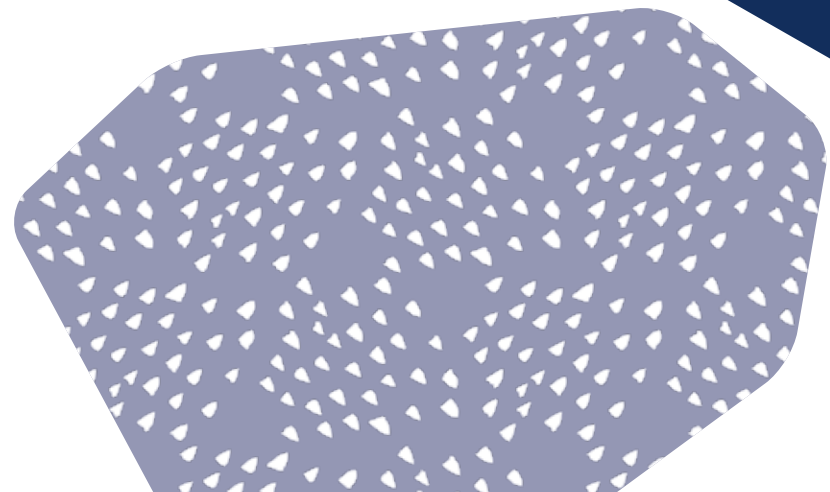
Improve outcomes for victims and offenders

The criminal justice service engages with people who are going through difficult times in their lives – people who need humans to support them. AI can help the system to deliver better support and to make the experience less troubling for victims and offenders.

Share best practice

Different interventions work for different people, and a more personalised approach can be effective in helping someone improve their life chances. But there isn't always enough time to explore what practitioners in other areas are doing.

AI can be an effective learning tool by analysing anonymised data on cases across the country, and suggesting what might work best for a certain individual and situation.

> " Local data on interventions across a range of different communities can contribute to a wider bank of best practice. This would benefit the service as a whole. "
>
> John Keane, former Frontline Probation Officer and leader in criminal justice technology.

> " With AI tools, a victim or offender wouldn't have to tell their story many times, they could just tell it once, which makes a bad experience easier to bear. Having AI generated summaries means when a new practitioner takes over a case, they can see all the key points without having to reinterview somebody. "
>
> Marco Fiorentino, Executive Director for NEC Digital Studio.

> " In youth justice, it's our responsibility as adults to protect children and meet their needs. If technology can help us do this better, it will have overwhelmingly positive benefits for society as a whole. "
>
> Stephanie Roberts-Bibby, Chief Executive Officer, Youth Justice Board for England and Wales.

Make interactions easier

It can be traumatic for a victim to relive their experience, or for an offender having to explain the same details to many different people.

Voice to text technology can help by turning an individual's words into structured data using linguistic algorithms. The AI can then create a report or summarise a conversation. This allows the practitioner to have a real conversation while maintaining eye contact.

Provide earlier help to children

If a child is prevented from offending as early as possible, the outcome for the child, their family and their community is greatly improved.

AI can promote early help by supporting collaborative working between the youth justice system and its statutory partners including education, health, probation, the police and local authority children's services. Practitioners have the insight they need to make decisions, and the time they need to support vulnerable children.

Conclusion

> **The youth justice system is about preventing offending, preventing harm, protecting vulnerable people, keeping our children safe and people alive. AI allows us to do that really important work better.**
>
> Stephanie Roberts-Bibby, Chief Executive Officer, Youth Justice Board for England and Wales.

As well as lightening the administrative load, AI can play a part in identifying risk by using historical data to reveal patterns, join up the dots and make predictions which might otherwise have been missed.

For the first time, we have machines that can learn, and this allows us to develop tools which can specifically support the aims and objectives of the justice system, helping us make the decisions that can change the course of somebody's life.

However, any new technology presents new risks, and with AI there are concerns that algorithms might perpetuate existing biases which could lead to discrimination, or that AI output might be used in place of a human decision-maker.

There must be robust safeguards in place to ensure AI in justice is transparent, explainable and equitable. If organisations work closely with developers to tailor the technology to the sector, AI in justice can be used ethically and responsibly to provide a holistic view for human judgement.

With intelligent technology to support their work, practitioners can devote their time and energy to developing their own skills, and those of their team, to help victims, offenders, families and communities.

AI is in widespread use in the private sector, helping science and industry make progress in a competitive world. This technology can now be tailored to the justice system, to help with the most urgent public service challenges of the day.

Now is the time to reap the benefits of AI to rebuild broken lives and create a fairer, safer society.