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ARTIFICIAL AND HUMAN INTELLIGENCE: PARTNERS AGAINST CRIME

HOW THE ETHICAL USE OF AI CAN SUPPORT POLICING BY INFORMING HUMAN DECISION-MAKING, STREAMLINING RESOURCES AND ENHANCING PUBLIC SAFETY.

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Our software is used by every police force, and our AI and automation services are freeing up thousands of hours of officer time.

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

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INTRODUCTION

AI and automation present exceptional opportunities for policing.

AI systems have the potential to help speed up response times and prioritise how resources are allocated. While machine learning models are becoming increasingly sophisticated, and offer the potential to spot patterns, anticipate risk and prevent harm.

Police forces across the country are starting to see the impact of AI in many aspects of their work. All **National Police Chief's Council** (NPCC) forces have adopted data analytics, with at least 15 forces using advanced data analytics which make recommendations from complex data.

However, data, models and algorithms need to support the very human world of policing.

In this sector, every decision has the power to profoundly affect people's lives. Should a person be detained or sent home? How safe does a town centre feel on a Friday night? Does a victim believe they're getting the justice they deserve?

When technology is involved in decisions like these, it has to be designed and used to the highest ethical standards in order to safeguard privacy, eliminate bias and ensure fairness. The focus should be on effectively supporting human decision making and not replacing it.

In this report we examine the increasingly important role AI has to play in policing now and in the future, while exploring how these innovations can be implemented responsibly and ethically to inform human decisions.

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PUBLIC PERCEPTIONS OF AI

AI has very quickly become an integral part of all our lives. Many people use different forms of AI at work and leisure without even thinking about it, from the face ID on our phones to digital voice assistants and the algorithm behind social media feeds.

The business sector is starting to see the benefits of AI too, saving time and making processes more efficient.

According to the UK Government's **2024 report** into public attitudes to data and AI, 44% of people think AI will have a positive impact on crime prevention and detection, while only 19% foresee a negative impact.

As AI becomes more prominent in the public consciousness, it will be increasingly important to keep people on board with the constructive role these technologies can play in helping police forces protect their communities, while remaining realistic about the risks involved.

When people understand how AI can assist policing, they will be more likely to support it. In the House of Lords report: **The advent of new technologies in the justice system**, the Metropolitan Police Service stated that transparency is "crucial to effective community engagement when considering if and how to use technology."

To strengthen this engagement, the report calls for the police to ensure full transparency over their use of AI given its potential impact on people's lives, particularly those in marginalised communities.

When police forces, public bodies and technology vendors are open and transparent about how AI is developed and used, the public will understand the genuine benefits of the technology and how it can help policing with the most urgent challenges of our time.

44%
Postive impact

19%
Negative impact

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THE ROLE OF AI AND AUTOMATION IN POLICING

There has never been a better time for policing to harness the benefits of AI and automation.

A difficult financial and social climate is putting the law enforcement sector under pressure. Heavy workloads, staff shortages, troubled communities and low levels of public trust are making the already demanding role of a police offer even harder to fulfil.

With fewer people and resources available to tackle increasingly complex situations, police forces need technology which can help them with a host of challenges.

AI and automation can support policing with these challenges in a variety of ways.

In the following sections, we look at how AI technologies can, and in some cases already are, helping policing in preventing crime, responding to incidents, managing cases and protecting communities, while decision-making remains firmly with humans.

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PREDICTIVE POLICING

Police forces can use AI to analyse vast amounts of data to predict likely outcomes – tasks which would take a lot of time, effort and resource to complete. The AI does the legwork, while the human interprets it and uses it ethically to make decisions.

These are some of the ways AI and automation can help with predictive policing:

IDENTIFY PEOPLE AT RISK

Police forces have a duty to safeguard vulnerable members of the public, but assessing who needs targeted help at the right times is not always straightforward. AI can assist by pulling together all the information on an individual, such as previous social care referrals or exposure to people linked with child exploitation, so officers can decide if they need to intervene and protect that person.

In 2023, **Lincolnshire Police** adopted an ethical AI application to support their approach to child safeguarding. Each time a concerned adult referred a child to the police, the force used a model to access all known information about that child from multiple agencies. The AI used this data to carry out risk assessments which helped the police decide whether intervention was needed.

These risk assessments typically take a human five days to complete, while the AI took around 20 minutes. A police officer was then able to review the assessments and make the final call.

The technology identified 16 vulnerable children six months earlier than the existing process, and spotted three vulnerable children who had not previously been identified as being at risk.

PINPOINT CRIME HOTSPOTS

Police officers often know from experience which areas, situations and times of day are likely to spark crime or unrest. A rainy Saturday night outside the pubs and clubs in the centre of town where fights might break out, perhaps, or scheduled events such as sports matches or festivals.

But humans don't have the same capacity as AI when there are many complex variables to consider. Technology has the potential to join the dots from vast amounts of data and pinpoint potential trouble spots more accurately.

AI can find patterns and trends in crime data and generate predictions based on various factors, such as time, location, weather and events. Machine learning models can be trained on previous data to predict which areas are more likely to have higher accidents or more trouble during certain times, allowing for more effective distribution of police resources.

A model might also be trained on past crime data to forecast future crime locations, and target known situations of risk.

That's when human intelligence comes in and uses this information to decide which action to take.

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CRIME SOLVING

Identifying suspects and pursuing investigations takes time, resource and brainpower. AI can support policing in realtime by processing vast quantities of information to find suspects more quickly. The technology can also help to inform human decisions about which actions to take.

AI can help policing with the following challenges:

EVALUATE THE SOLVABILITY OF CASES

When a crime is reported, but there's no forensic evidence, witness statements or CCTV footage, the likelihood of a successful investigation can unfortunately be slim. It can be expensive and time consuming to investigate a crime without clear lines of enquiry.

Technology can help to assess all the possible factors around a reported crime, and use these to provide a solvability indicator. A human decision-maker can then review and decide whether to follow a case up, for example with house-to-house enquiries, or by viewing doorbell footage.

The **Dutch police** has been using an AI tool to prioritise which cases to investigate based on the likelihood of finding DNA evidence in the so called golden hours shortly after a crime has taken place. The AI tool aims to rank cases by solvability, giving forensic detectives a clearer view on where to focus their limited resources.

The tool has also been successful in helping police officers decide which cold cases to reopen.

SEARCH AND LOCATE INDIVIDUALS

The human brain has remarkable powers to recognise and identify faces, but it takes time to sift through vast files of photos to find a match for a face. AI enabled face recognition can do this in a fraction of the time a human could, leaving the human brain to interpret the results and decide which steps to take.

Facial recognition makes use of CCTV data by identifying and measuring facial features in a digital image or video frame, and matching it with a human face.

Live facial recognition compares a camera feed of faces against a predetermined watchlist. This can support police in searching for individuals in real-time, for instance to identify a people smuggler at an airport or to scan CCTV footage to find someone who is vulnerable and missing.

On just one day in December 2023, **22 people on the Metropolitan Police's wanted list** were identified by facial recognition. Of those, ten people were arrested for offences including threats to kill, domestic abuse offences, theft, bank fraud and knife crime.

Retrospective facial recognition, which compares still images of faces against an image database, can help in law enforcement by matching an image of a suspect with a database to see if they are already known to the police. The **Metropolitan Police** successfully used retrospective facial recognition to track down a man who had stabbed a London bus driver.

Operator initiated facial recognition is when an officer takes a photograph of a person, and submits it for a search against an image database. This technology can be useful during procedures such as roadside checks, to quickly verify a person's identity saving valuable time and minimising disruption to innocent person.

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INCIDENT RESPONSE

Call handlers and control room teams are experts at responding to incidents, but if they are talking to a person in distress, or responding to a complex situation, it can be difficult to determine which resources are needed.

AI can assimilate information quickly to support response decisions in a number of ways:

IMPROVE EMERGENCY CALL HANDLING

Time is of the essence in frontline policing. AI can help police officers respond to crimes quickly and appropriately by providing real-time decision support to control room and dispatcher teams.

By training AI systems on historical incident data, policing can benefit from the insight this data provides in deciding how to respond to certain types of calls, and which resources to deploy. For instance, how many officers need to attend and if there is a need for specialist capabilities such as a vehicle equipped with a drone or a police dog.

Humberside Police have piloted an AI system to improve their response to emergency calls. In a test of the technology, a victim of domestic abuse called 999 because her ex-husband was trying to break into her house. While the victim talked to a human, the call was also transcribed by an AI software system, one that links directly into UK police databases.

When the victim told the call handler the name of her husband and his date of birth, the AI quickly retrieved his details, and spotted the man had a gun licence, indicating that police officers needed to get to the home as soon as possible.

TARGET RESPONSE TO INCIDENTS

In the heat of the moment, it can be hard for witnesses to recall all the details in a situation. AI can quickly process data from multiple sources and turn that into structured information about an incident which can help direct how to respond to an incident.

Take the example of a hit and run. AI systems can take location data, social media posts describing the type of vehicle, CCTV footage, visual data of the make, model and colour of the car and ANPR technology to identify the numberplate.

Bringing all these together can make it easier for officers to pinpoint what happened and take swifter action.

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PEOPLE AND COMMUNITIES

When members of the public need to talk to the police, emotions can often run high.

AI can help improve communications by interpreting people's speech and demeanour. There are also tools and techniques which can make it easier to question people in difficult circumstances.

AI can help to improve communications in the following ways:

SUPPORT VICTIMS AND WITNESSES

When a police officer finds themselves sitting with a victim of stalking who is upset and afraid, there's a long list of questions they have to work through while tapping the answers into a smartphone, tablet or laptop. The process can seem impersonal, making the experience dehumanising for the victim.

Voice to text technology can help by turning a victim's words into structured data using linguistic algorithms which the AI can use to identify answers to the questions. This would allow a police officer to have a real conversation with the victim while maintaining eye contact and providing support without having to stare at a screen.

It would also be possible to generate a whole report from a video recording of a victim or witness using an officer's body worn camera, improving the accuracy of reporting an incident without having a negative impact on the individuals involved.

This technology could make it easier for human police officers to make risk assessments for offences such as domestic abuse, stalking, harassment and anti-social behaviour, which can often involve extensive questioning of people who are likely to be at their most vulnerable.

AI can also optimise speech recognition quality and speed up machine translation, which could help when talking to someone who doesn't speak English as their first language.

It's an example of how AI technology can make it easier for police officers to have more human conversations with the people they support.

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PEOPLE AND COMMUNITIES

IMPROVE INTERVIEW TECHNIQUES

Any police interview can be fraught with emotion, whether it is with someone who has committed a crime, or someone who has been affected by it.

All police officers undergo in-depth training on how to carry out interviews with suspects and witnesses of crime. The emphasis is on interviewing in a positive way to build rapport and engagement.

To keep these interviewing skills fresh over time, **Northumbria University** has developed an AI based app which allows police officers to look back at their interviews and evaluate which parts were successful and which could have been done differently.

The app is designed to allow police officers to continuously review and develop their technique to ensure they are getting the most out of interviewees in an effective and respectful way.

BETTER NEIGHBOURHOOD POLICING

There are often calls for the police to be more visible in the neighbourhood, but with so many demands on policing, it can be challenging to manage a non-urgent yet important community presence.

AI can help police control rooms by prioritising tasks, tracking time and location, and optimising the way resources are allocated. A tool which takes data from police force's to-do lists and investigation files, could match that data with information about officer availability and the areas they are patrolling.

Using AI in this way would save time and improve efficiency – and importantly it would help to raise a positive profile for the police in the community.

For instance, when officers are likely to be on a particular patch, the tool could flag up people in the area who would benefit from a police visit. The AI could highlight the opportunity to visit an elderly lady who reported anti-social behaviour on her estate to see if the situation has improved, or to call in on a shopkeeper who has experienced harassment and provide them with reassurance.

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ADOPTING AN ETHICAL APPROACH

The benefits of using AI in policing are clear. However, it is important that AI and automation is used ethically and responsibly, with the final decision always going to a human decision-maker.

As the law enforcement sector steps up its use of AI, people are becoming increasingly aware of the risks. Policing deals with very sensitive issues so those risks can have severe repercussions.

The following section examines the potential for risk and the ways these risks can be minimised to ensure AI and automation is used to the highest ethical standards.

ELIMINATE BIAS AND DISCRIMINATION

AI systems learn from initial training data, and if there is bias in this data it will become embedded in AI models, and could affect decision-making. For instance, if predictive tools are trained on historical arrest data where bias is present, the algorithms can perpetuate biased patterns such as negative racial profiling and targeting of minority communities.

To avoid bias becoming baked into AI models, developers can use diverse and representative datasets to train AI systems, and continually test those systems for discriminatory patterns. For example, when police forces use AI to pinpoint crime hotspots, the models they use can be monitored to ensure bias relating to individual communities is not reinforced in the AI algorithms.

There are also frameworks developers can use, such as the AI Toolkit developed by **INTERPOL** and UNICRI to provide guidance on the responsible use of AI by law enforcement agencies.

PROTECT PEOPLE'S PRIVACY

The collection and storage of vast amounts of personal data poses risks of data breaches and misuse of information. There is also a concern about the extent to which people are monitored through AI-powered surveillance tools.

To ensure personal data is used responsibly, police forces can introduce strict protocols to set out which personnel are authorised to access data, and how that data will be used. To reassure citizens, the police can disclose their use of surveillance tools as well as the criteria they apply to the way personal data is held and used.

It's also important to emphasise that the AI won't make decisions based on this data – those decisions rest with a human officer.

These steps will help people to understand how the tools can keep their communities safe.

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ADOPTING AN ETHICAL APPROACH

ENSURE TRANPARENCY AND ACCOUNTABILITY

The ‘black box’ nature of many AI systems means they are not transparent or understandable to the people using them or the people affected by the decisions they inform. This makes it hard to determine who is responsible for AI decisions. Is it the developers, the police officers using the technology, the police force or the Government?

Explainability is the key here. When AI presents any results to the police, there must be an explanation of the reasoning behind those results so the police can make an informed decision about how, or indeed whether, to act on it.

This will help policing to work closely with suppliers to educate users and the public about the role technology plays, and to emphasise that the accountability rests with a human decision-maker.

It’s good practice by application developers to have clear audit trails which keep track of how AI technology is trained and developed, and the decisions made as a result. Detailed logs of the AI systems used can identify any malicious intent, such as a rogue developer who has introduced deliberate bias into a machine learning model.

RELY ON HUMAN JUDGEMENT

AI systems can produce false positives, such as incorrectly identifying innocent people as suspects. Equally they can deliver false negatives and fail to identify genuine criminals.

Systems are not infallible and in the worst cases they could bring about miscarriages of justice. If policing becomes overly reliant on AI tools, critical human judgement gets overlooked. This is why there must always be safeguards which ensure police decisions which affect people’s lives are made by a human and not by technology.

It’s important to regularly monitor AI systems to ensure they are working well and not causing unintended harm. Setting KPIs to evaluate the effectiveness and fairness of systems can help with this, as well as listening to feedback from officers and the public.

The final say in any decision should be made by human – not artificial – intelligence.

“We are clear that the human should always be the ultimate decision maker – as a safeguard for when the algorithm gets things wrong, or when more information is required to make an appropriate decision.”

The advent of new technologies in the justice system, House of Lords, 2022.

GUIDANCE FOR RESPONSIBLE AI POLICING

To adopt an ethical approach, there needs to be clear oversight of the role AI can play in policing. However, with any rapidly evolving technology, innovation accelerates at an astonishing pace and it can take time for regulation and controls to catch up.

In recognition of the need for oversight, policing bodies and industry representatives are signing up to new standards for technology in policing.

The following standards can help policing maximise the benefits of ethical AI:

THE COVENANT FOR USING AI IN POLICING

The NPCC has drawn up the **Covenant for Using AI in Policing** which has been endorsed by all members of the NPCC Council. The covenant applies a set of principles to policing designed to support scrutiny, integrity, and public confidence in the use of AI technologies.

The principles are based on guidance from organisations including the **Alan Turing Institute** and the **OECD**.

THE POLICE INDUSTRY CHARTER

Today's police service is a major user of science and technology products which it buys from a broad range of industry suppliers. With so many rapidly developing technologies becoming available, it's vital to ensure those technologies are used in the best way to support law enforcement and provide insight to the human decision-maker.

To create a new set of standards for policing technology, the **Police Industry Charter** was launched in spring 2024. The charter seeks to encourage policing and industry to work in close partnership to improve public services.

One of the principles of the charter focuses on transparency in relation to AI. Signatories agree to be transparent by default in all their products and services.

INTERPOL ARTIFICIAL INTELLIGENCE TOOLKIT

The AI Toolkit was developed by **INTERPOL**, together with its longstanding partner, the United Nations Interregional Crime and Justice Research Institute (UNICRI), to provide guidance on the development, procurement and use of responsible AI in law enforcement agencies.

The toolkit aims to support responsible innovation and implementation of AI in law enforcement and offers resources for any authorities involved in policing including industry and academia.

These sources of guidance will help to balance the risks and benefits of innovation while strengthening public confidence in the role of AI in policing.

As AI tools are improving all the time, it will be important to stay updated with any changes in standards and guidelines on the use of the technology. Collaboration with other law enforcement agencies, technology providers and academic institutions can help police forces keep track of advancements in AI.

With all stakeholders working together, policing can maintain an ethical approach to AI, where technology turns data into insight, and humans use that insight to make the final judgement.

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CONCLUSION

The time is right for policing to take full advantage of AI and automation.

The police service is facing a set of intense challenges. Divided communities, economic hardship and organised crime are putting a strain on resources, while policing is dealing with a workforce crisis which is leaving forces short staffed.

There is great potential for AI to relieve some of the pressure on the police, just when it's most needed.

Rapid innovation in technology is opening up tremendous possibilities to bring AI into all aspects of policing, with the opportunity to build a more effective, responsive and proficient service.

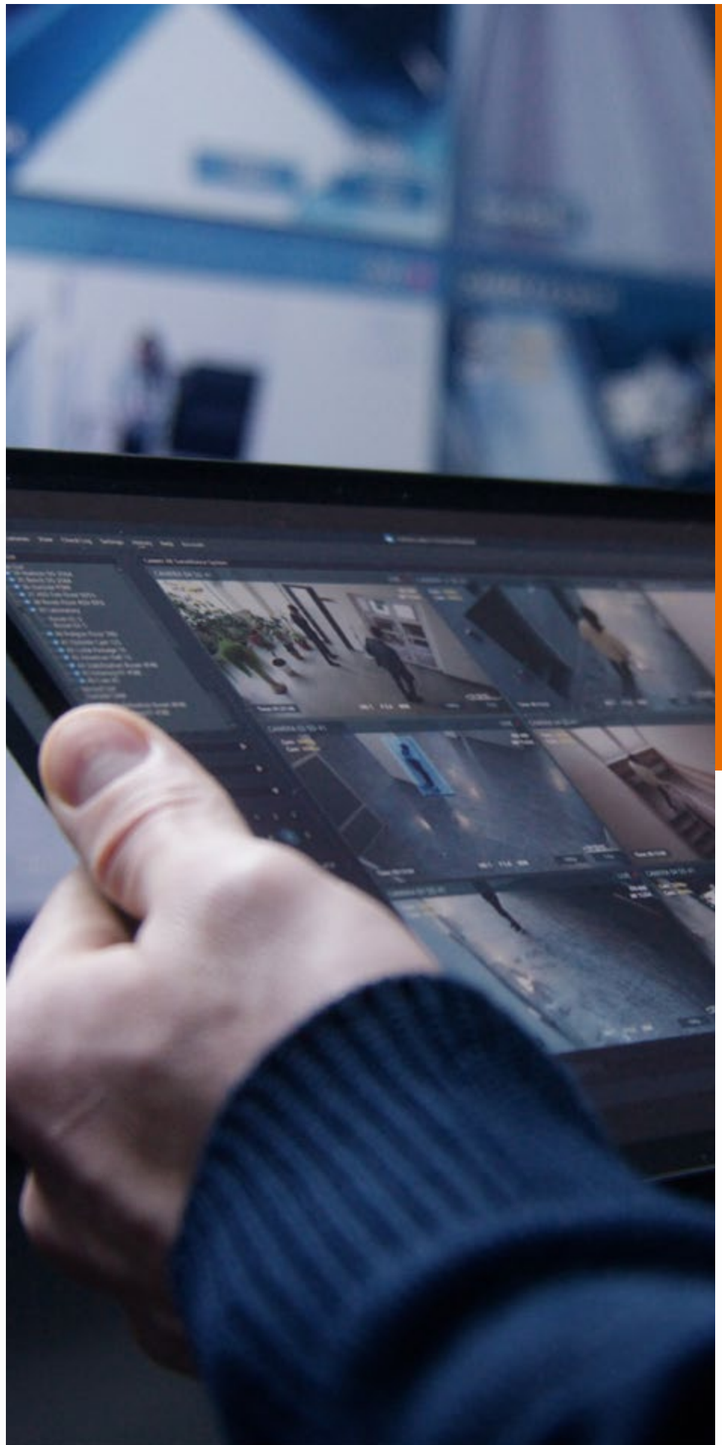
Predictive analytics can help police officers assess which people and situations are most likely to cause harm to others, and which people could become victims of that harm. Machine learning is capable of helping forces allocate resources in the best way to serve their communities, while AI systems can save time and deliver efficiency gains.

There is enormous potential for predictive analytics to turn reactive policing into proactive policing, where harmful incidents can be anticipated and prevented before they happen.

If implemented responsibly, AI can transform the future of policing by enabling human officers to intervene earlier to prevent situations from escalating, and to make informed decisions more quickly and effectively.

As technology evolves, there is a growing understanding of how AI can be implemented ethically and responsibly. Police forces and industry can work together to adopt transparent systems, eliminate bias from AI models and monitor the performance of the technology they are using.

By combining the power of AI with the experience, insight and understanding of the human mind, policing will be well placed to tackle society's challenges and win public trust.



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To find out more about how AI can support policing and public safety, please get in touch with us at:

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