ARTIFICIAL INTELLIGENCE SUPPORTING CROSS-BORDER COOPERATION IN CRIMINAL JUSTICE

JOINT REPORT PREPARED BY EU-LISA AND EUROJUST

Artificial Intelligence (AI) is one of the key technologies enabling the digital transformation in the justice area. The report provides a high-level overview of the policy and legal context for the use of AI in cross-border judicial cooperation and explores the relevant technologies and possible use-cases for the application of AI within the judicial field.

Policy and legal context

At European level, a forward-looking stance on the topic of **AI has been adopted since 2017**, when the EU Council called for a way to address AI as an emerging trend, while ensuring 'high level of data protection, digital rights and ethical standards'[1]. The European approach to **regulating** AI was gradually developed, culminating in the proposal for a Regulation laying down harmonised rules on AI, published in April 2021 (AI Act)[2].

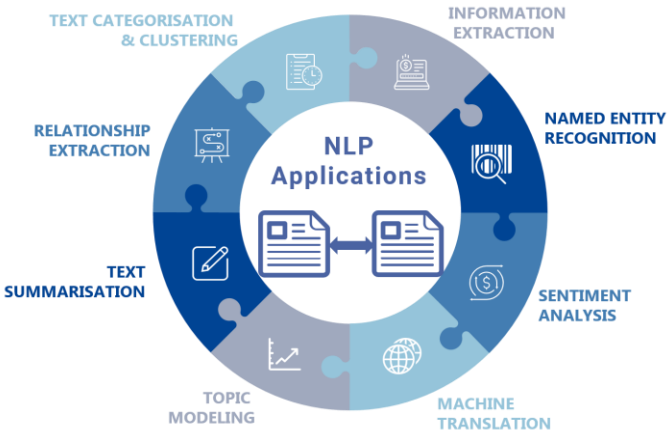
Specifically in the **Justice area**, the **challenges** and **opportunities** for the use of AI technologies were identified in the **Digital Criminal Justice study**[3] and also analysed in the Commission Communication on the further enhancement of digitalisation of justice[4]. The European Parliament adopted a resolution on AI use by police and judicial authorities in criminal matters which highlighted the possible **uses and risks of the AI use in law enforcement and judiciary**.[5]

The proposed AI Act indicates that **the use of AI justice should be considered as high-risk**, especially what concerns AI systems intended to assist judicial authorities in researching and interpreting facts and the law and in applying the law to a concrete set of facts. However, such categorisation should not affect AI systems or tools applied for ancillary administrative activities, such as anonymization or pseudonymization of judicial decisions, documents or data, communication between personnel, administrative tasks or allocation of resources.

AI use-cases for cross-border justice cooperation

Natural language processing technologies

Figure 1 — overview of NLP applications



One of the **key challenges** for judicial authohrities is the **amount of unstructured information** they have to process as part of their investigations. This is further complicated by the fact that this information is often presented in multiple media and in different langugages. To address this, **natural language processing (NLP) technologies** in combination with other technologies, such as speech-to-text, optical character recognition and automated translation may be used to assist the practitioners in the context of cross-border judicial cooperation. However, the compliance with the EU data protection legislation is a precondition before deciding on any use of such technologies, notably the principles of necessity, proportionality, data minimisation and data protection by design should always be considered upfront.

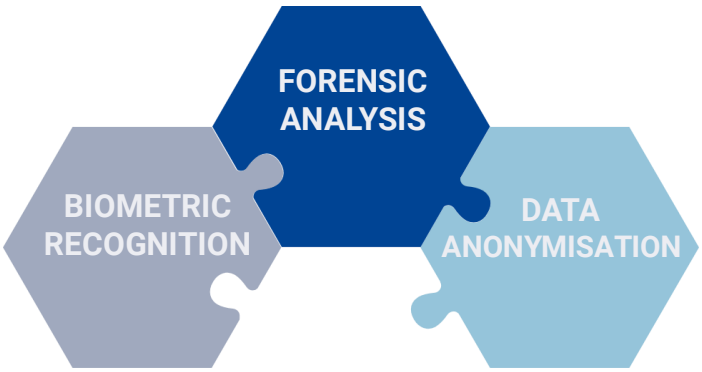
[1] European Council, European Council meeting (19 October 2017), https://www.consilium.europa.eu/media/21620/19-euco-final-conclusions-en.pdf
[2] European Commission, 2021/0106(COD), https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021PC0206
[3] https://www.eurojust.europa.eu/judicial-cooperation/judicial-cooperation-instruments/digital-criminal-justice
[4] European Commission 2020, https://ec.europa.eu/commission/presscorner/detail/en/ip_20_2246
[5] European Parliament 2021, https://www.europarl.europa.eu/doceo/document/TA-9-2021-0405_EN.html

More specifically, the report discusses the following applications of **natural language processing technologies**:

- Automated document processing;
- Automated translation;
- Automated summarization systems;
- NLP for evidence analysis and anonymization;
- NLP for legal research and analysis.

AI for forensic analysis and anonymization of audio-visual media

Figure 2 — AI for forensic analysis and anonymisation



Evidence in criminal investigations is often not limited to text and contains a wide range of other media, including images, video and audio or voice media. **Manual processing of multi-media evidence has a number of limitations.**

In that sense, machines are a nearly perfect replacement, as they can tirelessly perform such tasks, consuming significantly fewer resources and in a significantly smaller amount of time.

Focusing on **forensic analysis and anonymisation of audio-visual media**, the report discusses applications of computer vision for facial recognition and object detection in image or video data, voice or sound pattern detection in audio data, as well as **the use of AI for the purposes of anonymisation of multi-media evidence.**

It is worth noting that **AI supporting these applications is not perfect** and a number of **challenges need to be addressed** in order for these systems **to be compliant with the ethical and legal requirements.** Those challenges include **reducing bias**, as well **as ensuring transparency** and explainability of AI systems, among others.

Ethical and fundamental rights considerations

The **Ethics Guidelines for Trustworthy AI**[6], based in a number of legislative acts[7], identify the following **key requirements for AI systems:**

- Human agency and oversight;
- Technical robustness and safety;
- Privacy and data governance;
- Transparency;
- Diversity, non-discrimination and fairness;
- Societal and environmental wellbeing;
- Accountability.

Some of these principles were also integrated in the Ethical Charter on the use of AI in judicial systems, focusing more specifically on the application of AI in the justice area.

The **transformative potential of AI for the justice field is clear;** however, AI brings with it a range of risks, which need to be taken into consideration when developing and deciding to apply such tools. The abovementioned principles and requirements will help in addressing these risks.

Conclusions

The field of justice is undergoing digital transformation, and artificial intelligence, as a set of different technologies, has great potential to contribute to and further enhance this process, allowing for a significant improvement in both the efficiency and effectiveness of operation of the judicial authorities. Similar to digitalisation, **the use of AI may, in the long term, help significantly reduce the costs for the judicial authorities.** Efficiency **gains, improvements in effectiveness**, **cost reduction**: all of these performance improvements can eventually result in improved access to justice and reduced time to render judicial decisions. However, **a balanced approach is necessary** in order **to ensure the protection of fundamental rights while enhancing the digital transformation**, as it is not a purely technical challenge, but may have significant legal, ethical and fundamental rights implications. A risk-based approach (integrating cost benefit analysis, fundamental rights and data protection assessments) is proposed to be be developed and applied to determine the safeguards and the deployment model for AI systems in practice.

[6] European Commission 2019, https://digital-strategy.ec.europa.eu/en/library/ethics-guidelines-trustworthy-ai

[7] E.g. Regulation (EU) 2016/679; OJ L 119, 4.5.2016, p. 1–88; Regulation (EU) 2018/1725; OJ L 295, 21.11.2018, p. 39–98; Directive (EU) 2016/680; OJ L 119, 4.5.2016, p. 89–131; Directive 2002/58/EC; OJ L 201, 31.7.2002, p. 37–47

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