Hybrid Intelligence

Hybrid Law

Case Study Report 2024-2025

"Enhancing Access to Justice through Hybrid Intelligence"

Goal

At some point in their lives, most people will come in contact with the judicial system. Unfortunately, various barriers can hinder individuals from accessing the justice they deserve.

Factors such as limited financial resources, a lack of legal knowledge, or skepticism about the legal system may prevent people from obtaining the legal aid they need.

Meanwhile, legal professionals often face overwhelming workloads, leading to significant delays in delivering justice—and as the saying goes, justice delayed is justice denied.

Artificial Intelligence (AI) offers a solution by increasing access to justice. AI can empower individuals with tools to inform themselves and provide legal professionals with resources to streamline their work, ensuring a more efficient and equitable legal system.

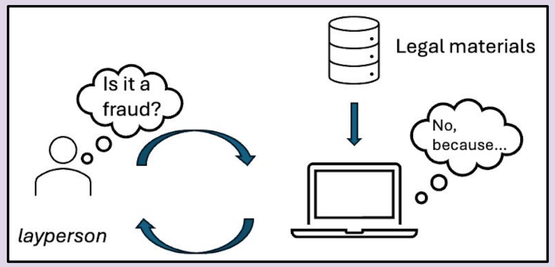
The primary aim of these tools should be to augment the capabilities of human users, ensuring that AI complements their efforts rather than replacing them. By utilizing Hybrid Intelligent systems, where humans and AI collaborate in synergy, we can break down barriers and enhance access to justice.

Case flows:

We outline two general-use applications for Hybrid Intelligent applications within the legal domain.

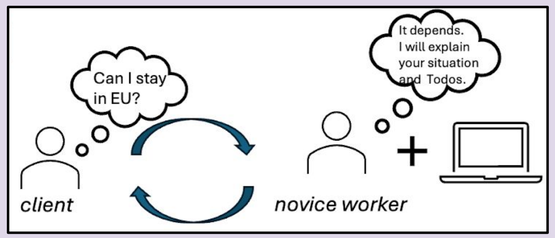
Legal assistant for lay people

The system informs lay people by providing legal information through natural language dialogue. It retrieves relevant legal content, interprets the user's input, and delivers clear, accessible advice, e.g. to determine whether the user has been a victim of fraud.



Assistant for legal experts

The system supports legal experts by guiding case classification, structuring analysis with a tailored canvas, and offering insights from similar cases. It is co-designed with experienced professionals, ensures compliance, and generates clear follow-up advice for clients. As such, the system can e.g. support a novice worker to assist clients during consultation hours.



HI perspective on law

The HI approach to law integrates multiple academic areas to address real-world challenges in the legal domain.

The user-centered design approach used in this case study ensures that systems are intuitive and able to adapt to different user needs, fostering effective collaborations between human experts and AI systems.

The tools use a neuro-symbolic approach that combines data-driven methods with knowledge-based methods to extract and reason about legal knowledge. This requires expertise in natural language processing, information extraction, and knowledge representation.

The systems also support deliberation and argumentation, ensuring well-founded, responsible reasoning. Explainability is prioritized to build trust, and the systems should adhere to ethical principles like compliance and fairness.

Associated projects

2.17 – *Designing for Emergence*

2.19 – *Designing a Rational Process for Hybrid Probabilistic Decision-making*

2.21 – *Correct Reasoning in Hybrid Intelligence*

3.9 – *NeSy for safety and norms in multi-agent RL*

Is your project not here? Please contact Cor Steging or Stephanie Tan to join the law case study!

Delivered:

- **Initial set-up**: Introduction of the case study, including a preliminary cohort of students and their associated projects.
- **Police Lab visit**: Joint presentations by HI and the National Police Lab AI.
- **Invited speaker**: Hannes Westermann shared insights on designing AI tools to improve access to justice.
- **Student presentation**: Ludi van Leeuwen reflected on 30 years of AI & Law.
- **Bi-monthly meetings**: Regular online and in-person sessions to express interests and align on shared goals
- **Exploring stakeholders**: Ongoing engagement with legal stakeholders.

Plans:

- **Define a shared project focus**: Develop actionable plans for concrete projects that align with common areas of interest.
- **Position paper**: on the intersection of Hybrid Intelligence and law.
- **Matrix connections:** Link to related element (incl. Ethics & System Design, Trust & Trustworthiness, and NLP4HI).
- **External collaborations:** involvement in AI and law workshops and collaboration with other consortia (e.g. AlgoSoc)
- **Student involvement with stakeholders:** Proceed with individual students engagement in specific projects at external stakeholders.
- **Regular meetings with stakeholders:** Participate in regular meetings hosted by stakeholder organizations.