NLP in legal information retrieval and decision support

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LEGALESE

Natural Language Processing to support legal casework and enable efficiency and equality in social service legislation
The field: Law and artificial intelligence

Legal governance:
Examples of law relevant to the use of artificial intelligence

- Human rights
- GDPR
- AI ACT
- Administrative Law
- Internet law (Digital Services Act)
- ... etc

Computational law:
Examples of artificial intelligence as support to legal decision-making

- Compliance review
- Contract review
- Fraud detection
- Automated taxation
- Legal information retrieval
- ... etc
Computational law: using artificial intelligence to support legal work
Automated legal information retrieval: Legislation
Automated legal information retrieval: Case law: network analysis
Automated legal information retrieval: Case law: Natural Language Processing
Information retrieval (case law) before and after Natural Language Processing

Before (manual search)
- Human memory - individual and collective
- Key-word or category search
- “Gold” standards (go-to cases)

After (automated match)
- NLP model compares new cases against all old cases
- NLP model calculates similarity over entire document texts
- NLP rank previous documents
From information retrieval to decision support

- Manual decision making
- ...
- Using prior case decisions as inspiration for new decisions
- Using prior case decisions to recommend decisions for new similar cases
- Using prior case decisions as templates for decisions in new similar cases
- Using prior case decisions to auto-draft for decisions in new similar cases
- ...
- Automated decision making
Automation: Ills and remedies

The fear of alienation:
- Lack of transparency and explainability
- Lack of empathy

The fear of loss of control
- Biased decision-making
- Automation will remove reasoning

The comfort of familiarity
- Existing explainability requirements will be upheld
- Upholding individual assessment (no profiling of humans)

The comfort of human command
- Impartiality policy
- Automation bias removal policy
Conclusion: Tectonic plates or grains of sand?

- AI is a significant technology which impacts broadly across society
- But AI has (so far) not fundamentally transformed our society
- No general AI
- Technological advancement is slower than predicted
- Legal Tech is growing in importance
- It mainly supports trivial tasks
- But the future is ...
Thank you

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