

Microsoft Cloud Computing Research Centre

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Administrative Law and Automated Public-Sector Decision-Making

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Current machine learning / ADM research

- Primarily FAT-ML, explainability, and ethics
- Comparatively little work on meeting legal requirements beyond data protection and (increasingly) non-discrimination
- Work by others on limitations of explanations (of various kinds) and of concepts like transparency
- New approach: accountable systems research based in legal standards and requirements for legally compliant and reviewable decision-making

Why English administrative law?

- Admin law: sub-field of public law which regulates the exercise of executive authority by government, public bodies, etc.
- Field of law specifically for maintaining baseline standards of decision-making in public sector
 - Developed over decades (if not centuries) by courts
 - Standards apply even to most consequential decisions
 - Comparative concepts, standards, principle, and requirements found in most democratic countries
- Admin law = enforceable, coherent framework for minimum requirements for 'good' ADM and for reviewability of ADM systems for compliance

ADM in the public sector

- Use of ADM in the public sector is expected to increase greatly in coming decades
 - Potential for use of ADM in criminal justice, healthcare, housing, welfare, social services, immigration, budgeting, planning, licencing, etc.
- Currently little clarity on how admin law standards and principles apply to ADM in the public sector
- In the US – 2015 ACLU Idaho case (*KW v Armstrong*)
 - Medicaid entitlement decided by flawed ADM system
 - Declared unlawful by courts on admin law grounds

Three stage project

- 1 - What does admin law require of ADM?
 - What is required of public bodies using ADM systems?
 - What is required of ADM systems themselves?
- 2 - What is the gap between where ADM systems and ADM research are now and what admin law requires?
 - What is needed for ADM systems to meet admin law standards?
 - What is needed for ADM systems to be reviewable for compliance?
- 3 - Developing tools, mechanisms, etc. for reviewable ADM systems which meet admin law standards

First stage: Admin law's requirements (a few examples)

- Legal / organisational requirements
 - Data protection compliance
 - Delegation of decision-making (from decision-maker to machine / from public body to third-party data processor)
- Technical requirements
 - Accuracy and relevance of data (including training data, proxies, and inferences)
 - Duty to give reasons for (consequential) decisions
 - Rule against bias
 - Reviewability for compliance

Some ADM problems identified so far

- Accurately representing the law
- Accuracy and relevance of inferences and predictions
- Tools/mechanisms for review
- Uniform models and discretionary powers
- Ability to give reasons for decisions

Some problems with admin law and judicial review

- Three month time limit for undertaking judicial review
- Non-reviewability of outsourced decision-making
- Willingness to look at training data and wider processes in reviewing individual decisions
- Fitness of current judicial review process as means for reviewing ADM

Reviewable systems beyond the public sector

- Development of better systems for public sector can assist with development of better systems for private sector
- Standards of decision-making for public sector ADM can be implemented in private sector
- Mechanisms for reviewability for public sector ADM can be implemented in private sector
- “Compliance as a service“: ‘ML as a service’ could incorporate admin-law-derived standards and reviewability mechanisms

Research directions

- Stage 2 – What needs to be done to build reviewable ADM systems which meet admin law's requirements
- Stage 3 – Developing mechanisms, tools, etc. for compliant and reviewable ADM systems
- Other areas for work
 - Future legal reform – new/amended admin law standards for ADM
 - Adequacy of judicial review as process for reviewing ADM

Key takeaways

- Current ADM/ML research often doesn't take into account or aim to meet legal requirements
- Admin law provides enforceable legal baseline for 'good' ADM in the public sector
 - Standards for legally-informed systems accountability research
- Much research to be done
 - Improving systems to meet standards
 - Developing mechanisms for reviewing systems
 - Reforming legal standards and judicial review processes
- Benefits beyond public sector