Can Algorithms Prevent Crime?

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CUPP (Critical Understanding of Predictive Policing)

Can Algorithms Prevent Crime?

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Critical Understanding of Predictive Policing

- What is crime?
- What does ‘prevention’ imply?
- What are the underlying assumptions for specific algorithms?
- What are the limits for automated decison making?
- What are the social costs of Big Data collection?
- What happens if crime fighters make mistakes?
- Who sets the goal posts and evaluates results?

Researchers
IT Professionals
Citizens’ Rights Groups
Police Officers

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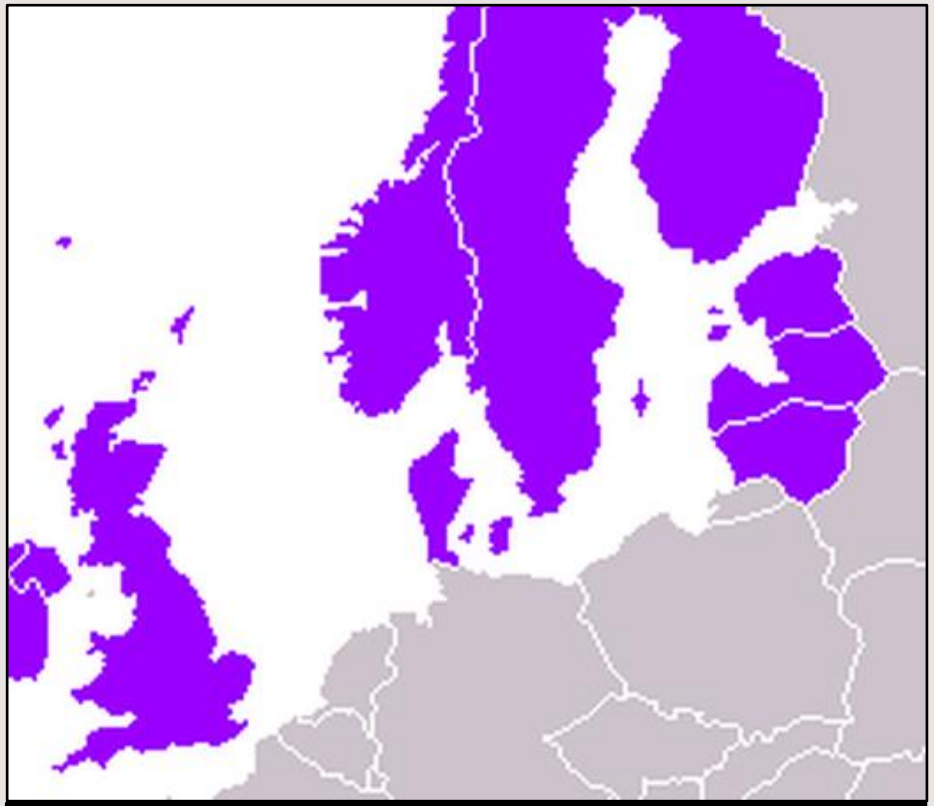

Cuppresearch.info
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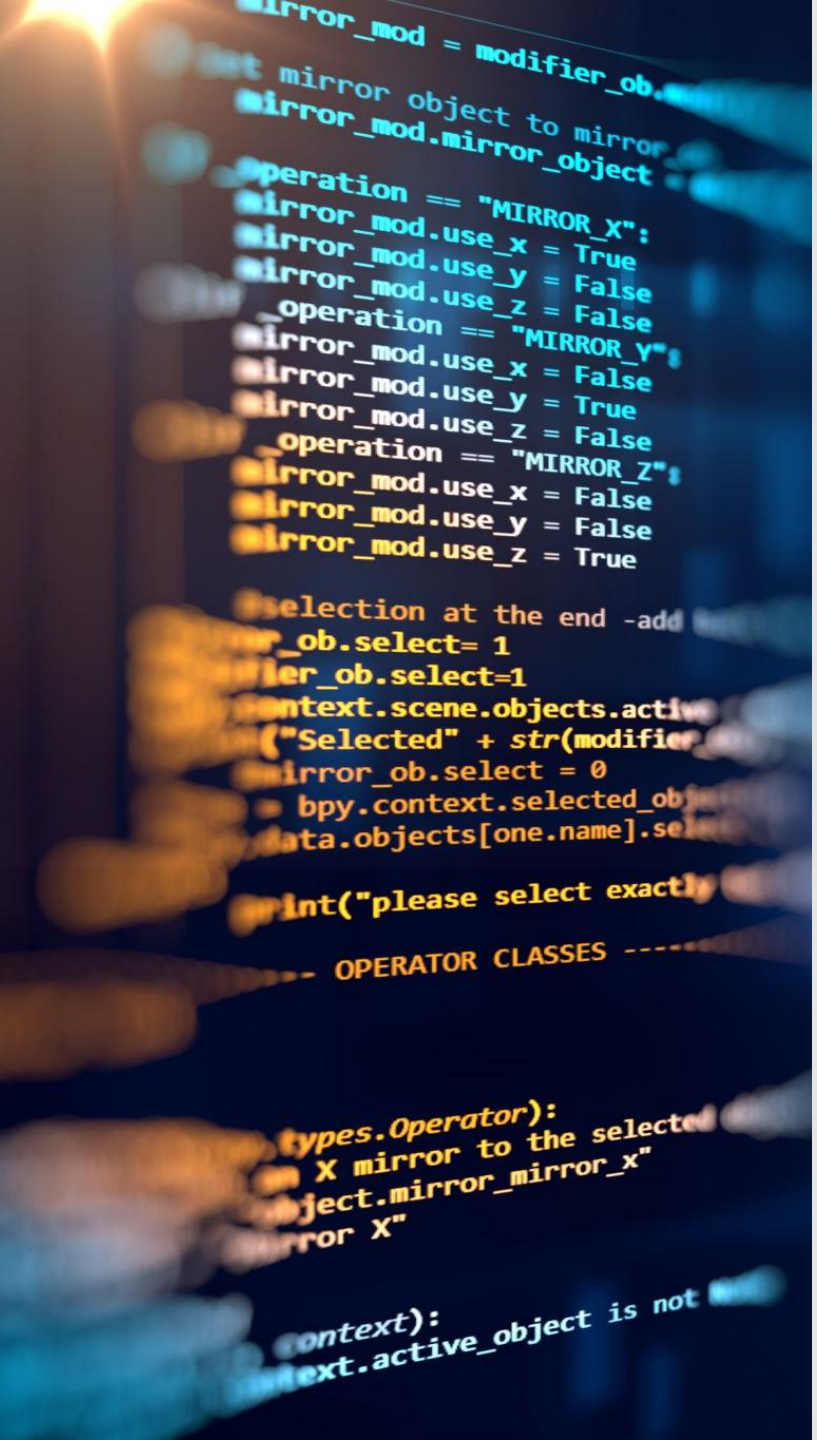
- First major European research project on the implications of algorithmic policing and law enforcement.
- Funded by NordForsk (Nordic Council of Ministers)
- Focusing on the Nordic-Baltic region

- 6 academic institutions
- 1 trade union for IT professionals

- Cross-national
- Inter-disciplinary
- Citizen engagement

- Ideas Catalogue: Concepts, tools, maps etc.



An algorithm is:

- ...a sequence of well-defined instructions used in computer programming and aim to solve a specific problem.
- A learning algorithm is **a method used to process data that would allow for the production of patterns which can be used in a new situation**.

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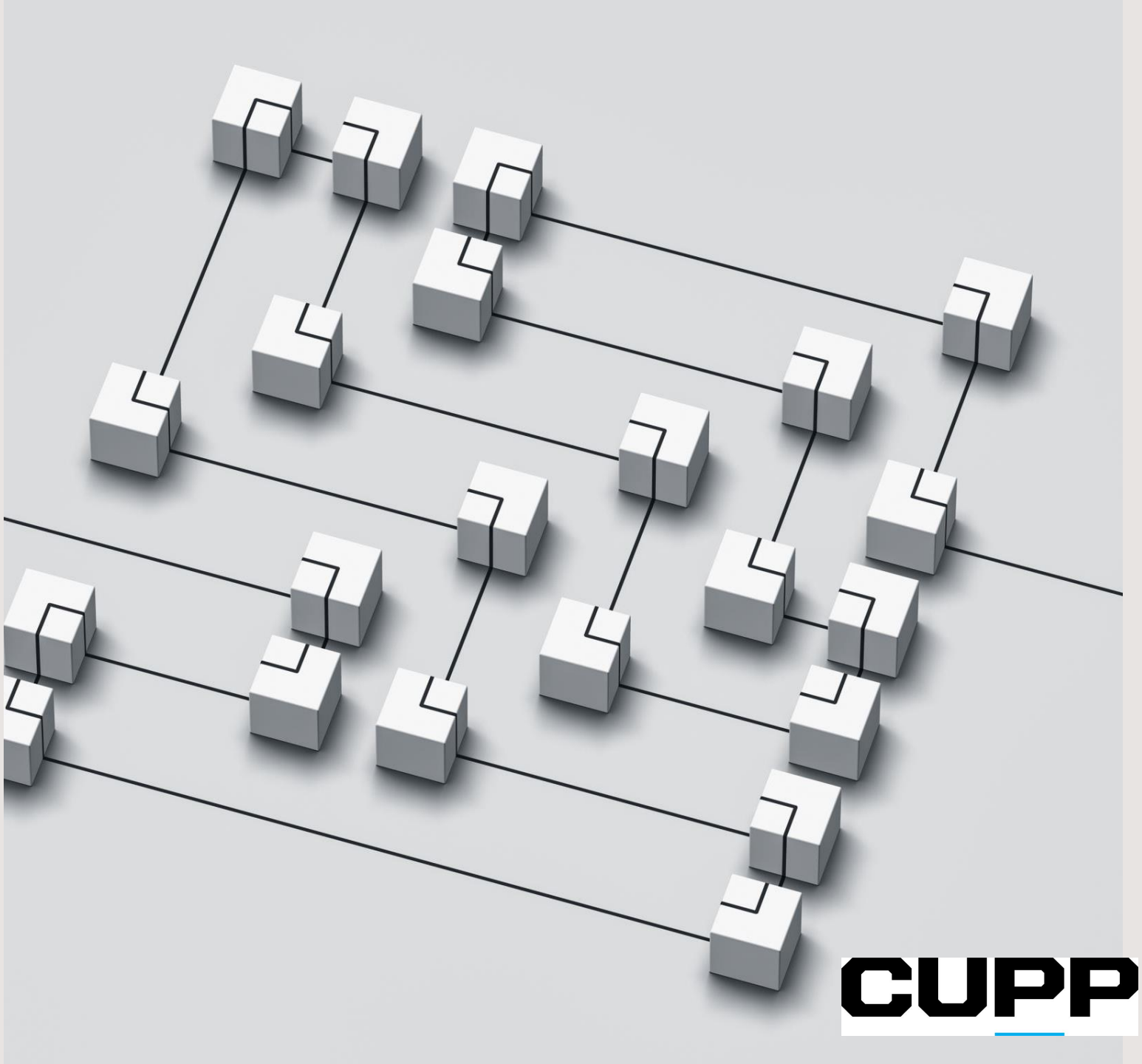
Are algorithms neutral?

Data may contain biases

Hidden feedback loops

Less data exist for minority populations



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Algorithmic surveillance technologies:

Location focused or ‘predictive mapping’

- **Automated licence plate readers (ALPR)** use pattern recognition software embedded in cameras to scan and identify the license plate numbers of parked or moving vehicles.
- **Hotspotting**: take data from a variety of sources to predict where crimes may occur- police may use this information to allocate resources to “hotspots”.
- **Nowcasting and forecasting of migration:** predictive human displacement using data from a variety of sources and machine learning

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Algorithmic surveillance technologies: **Person focused or 'risk assessment'**

- **Social media surveillance software** mines and analyses personal information and related data from social media platforms.
- **Facial recognition** is a biometric identification technology that uses algorithms to detect specific details about a face, such as the shapes of and distances between certain facial features, then uses a mathematical representation of those details to identify or match the same or similar faces in a facial recognition database.
- **Harm Assessment Risk Tools** calculates how likely a detained person is to reoffend based on past criminal history, as well as characteristics such as age, gender and postcode (with postcode being a significant factor in "community deprivation").

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Critique of algorithmic surveillance technologies

Personal Data concerns:

-Personal data processed for new purposes

-Retention period of data

-Sensitive data- biometrics

Bias concerns

Predictive programs are not neutral- target people

Lack of transparency in how police uses these programs

In conclusion...

Regardless of whether algorithms can prevent crime or not, the question is should they be used to prevent crime?

What if the cost to society are actually greater than the benefits of predicting certain types of crime?

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Other CUPP projects

- **POL-INTEL (Denmark)**
- **Status (Sweden)**
- **Prejudice and algorithm bias (Estonia)**
    - ***Digital migration control***
    - ***Predictive border control***
    - ***Profiling and gene data***
- **Mass surveillance in traffic control (Latvia)**
- **Forecasting future crimes (Norway)**
- **Facial recognition and public space (UK)**