

Sampling paradigm?

Setting

- 1 **Ubiquitous sensing**: data is collected automatically.
- 2 **Human subjects data**.
- 3 **No sampling paradigm**: instead data=all?
- 4 **Bias by (lack of) design**: e.g. Twitter data generated by Hurricane Sandy, StreetBump smartphone app.
- 5 **Fidelity and generalizability**: see for example precision medicine.
- 6 **Prediction vs Estimation**.

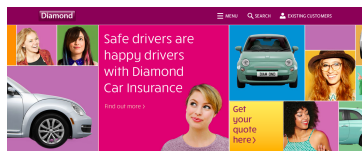


Modern forms of data.

Fairness & Transparency


Ingredients

- 1 **Statistics** are collected automatically from our daily lives \Rightarrow surveillance society?
- 2 **Transparency**: with very large amounts of complex data, and complex algorithms, how are decisions taken?
- 3 **Fairness**: What does fair mean?
- 4 **Consent**: should data be given away for perpetuity?



Article

An Analysis of Prisoner Reentry and Parole Risk Using COMPAS and Traditional Criminal History Measures

Crime & Delinquency
20(4), Vol. 80(2) 167-192
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DOI: 10.1177/0011128711426544
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Fair? Transparent?

Impacts of data usage and algorithms

Ingredients

- 1 **Government interest**—UK GO Science & White House
- 2 **Royal Society** and **British Academy** project on data governance
- 3 **IEEE: Ethical Considerations in Artificial Intelligence and Autonomous Systems**
- 4 **Should there be an explicit data science code of ethics and behaviour?**



Implications, Impacts and Innovations

30–31 Dec 2017, London, UK

- 1 Machine Learning and the Law
- 2 Algorithms, from regulation to privacy and trust
- 3 Algorithms with societal impact
- 4 Analytics for human health



Hooke Discussion Meeting:
Royal Society.

- Confirmed speakers: David Madigan, Chloé-Agathe Azencott, Christina Blacklaws, Kay Firth-Butterfield, Mireille Hildebrandt, Chris Reed, Rebecca Endean, Hetan Shah, ...
- Organizers: Sofia Olhede, Patrick Wolfe, Tony McEneaney, Neil Lawrence