(Self-)regulation of algorithmic systems that control online information access
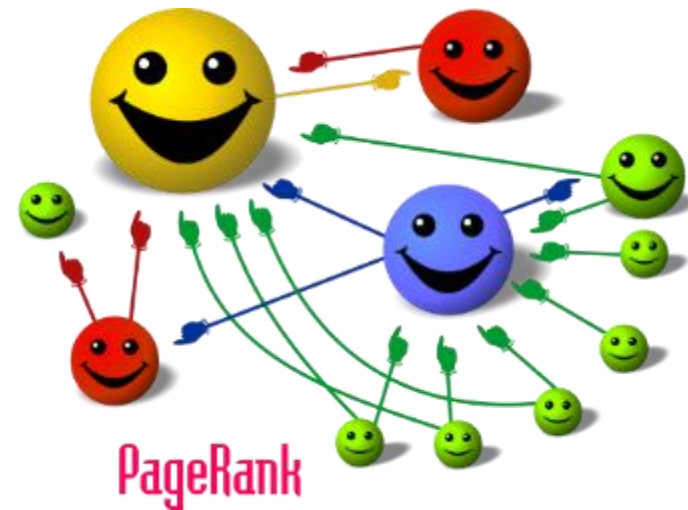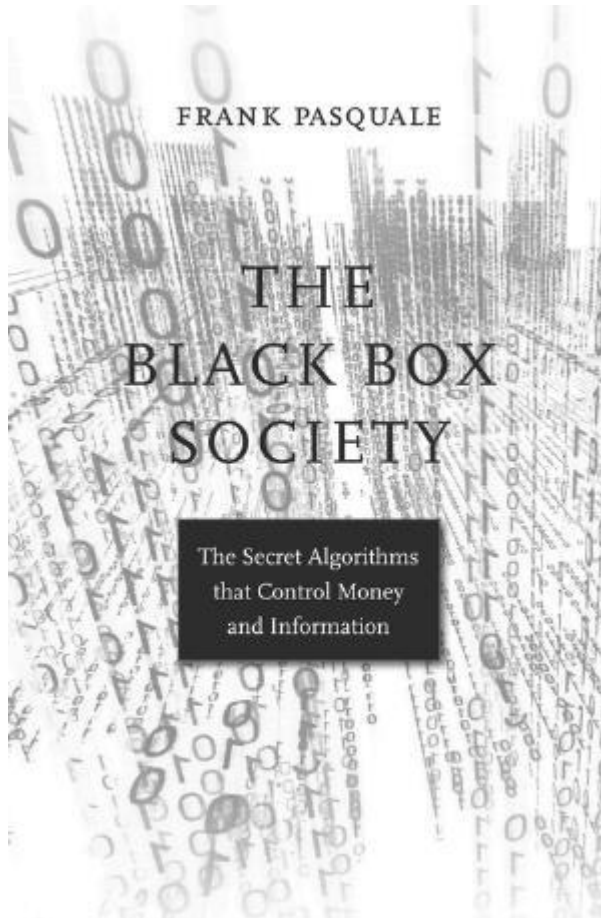
Ansgar Koene

Horizon Digital Economy Research institute, University of Nottingham

http://unbias.wp.horizon.ac.uk/

IGF 2017 Lightning Session, December 21, 2017

Loss of human agency

Google search =
f(PageRank, 300+ other factors)

Algorithmic Discrimination

Admiral to use Facebook profile to determine insurance premium

Two Shoplifting Arrests

JAMES RIVELLI

Prior Offenses
1 domestic violence aggravated assault, 1 grand theft, 1 petty theft, 1 drug trafficking

Subsequent Offenses
1 grand theft

LOW RISK 3

ROBERT CANNON

Prior Offense
1 petty theft

Subsequent Offenses
None

MEDIUM RISK 6

# Complex individuals reduced to simplistic binary stereotypes

Deep neural networks are more accurate than humans at detecting sexual orientation from facial images.

Contributors: Michal Kosinski, Yilun Wang

Date created: 2017-02-15 04:37 PM | Last Updated: 2017

New AI can guess whether you're gay or straight from a photograph

An algorithm deduced the sexuality of people on a dating site with up to 91% accuracy, raising tricky ethical questions
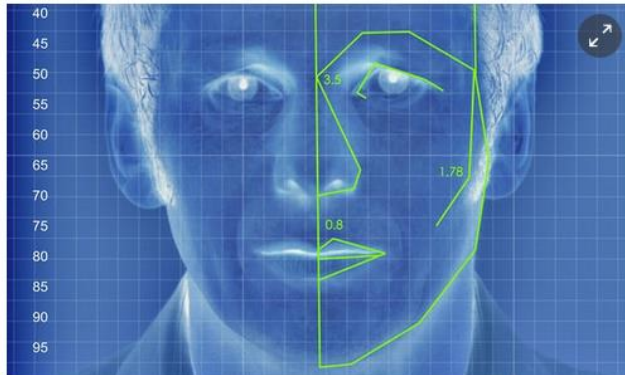
An illustrated depiction of facial analysis technology similar to that used in the experiment. Illustration: Alamy

THE CONVERSATION
Academic rigour, journalistic flair

Arts + Culture Business + Economy Cities Education Environment + Energy Health + Medicine Politics + Society Science + Technology Brexit

Machine gaydar: AI is reinforcing stereotypes that liberal societies are trying to get rid of

September 13, 2017 11.35am BST

Artem Oleshko/Shutterstock

Following the old saying that "knowledge is power", companies are seeking to infer increasingly intimate properties about their customers as a way to gain an edge over their competitors. The growth of Artificial Intelligence (AI), algorithms that use machine learning to analyse large multifaceted data sets, provides an especially attractive way to do this. In

Author

Ansgar Koene
Senior Research Fellow, Horizon Digital Economy, UnBias, University of Nottingham

4

Use case for inferred intimate data

Big data meets Big Brother as China moves to rate its citizens

The Chinese government plans to launch its Social Credit System in 2020. The aim? To judge the trustworthiness – or otherwise – of its 1.3 billion residents

WIRED.CO.UK

Algorithm fairness – a wicked problem

This is not a technical problem – it is **socio**-technical

- Almost all applications involve some form of resource limitation (e.g. human attention)

- Fairness is culture and context dependent

- Values of users are often not explicitly specified

Professional organizations moving to promote importance of ethics

- ACM Principles on Algorithmic Transpaceny and Accountability

- IEEE Global Initiative on Ethics of Autonomous and Intelligent systems

Development of (ethics) standards for algorithmic systems

- IEEE P70xx series of standards for ethical design

- ISO/IET Standards for AI

How should algorithms be regulated?

- Can industry self regulation through mechanism like standards provide the guarantees that are needed?

- What might the impact of national regulation of AI/algorithms be on trans-national online services?

- Should international bodies like the IGF or ITU set minimum requirements?