

Bias in Human and Machine-made Decisions

Professor John S. Edwards



Two questions...



Two questions...

- Are you biased?
- Of course you are!



Two questions...

- Are you biased?
- Of course you are!
- Are your computer systems biased?
- Do you know?

Human biases in making decisions

- Bias towards the first information received
- Supporting instinct
- Methods that affect the decisions made
- Lacking feedback on past decisions
- Hindsight bias

Machine biases in making decisions

- Bias towards the first information received
- Supporting instinct
- Methods that affect the decisions made
- Lacking feedback on past decisions
- Hindsight bias

What can you do about it?

- Ensure diverse inputs
- Standardize terminology
- Document assumptions
- Use tools appropriately
- Test, test and test again

Question Time!

Acknowledgement

- Picture from https://commons.wikimedia.org/wiki/File:Statue_Of_%27Justice%27_Old_Bailey.jpg
- Picture by <https://commons.wikimedia.org/wiki/User:Lonpicman>

Further reading

- EDWARDS, J. S. & RODRIGUEZ, E. (2019, to appear) A review of biases in analytics. Chapter 5 in *Business Transformation in Data Driven Societies* (GEORGE, B. & PAUL, J., Eds). Palgrave Macmillan/Springer Nature.
- HAMMOND, J. S., KEENEY, R. L. & RAIFFA, H. (1998) The hidden traps in decision making. *Harvard Business Review*, 76(5), 47-56.
- SCHIEBINGER, L. (2003) Women's health and clinical trials. *Journal of Clinical Investigation*, 112(7), 973-977.