Ethical Dilemmas in AI and Financial Services

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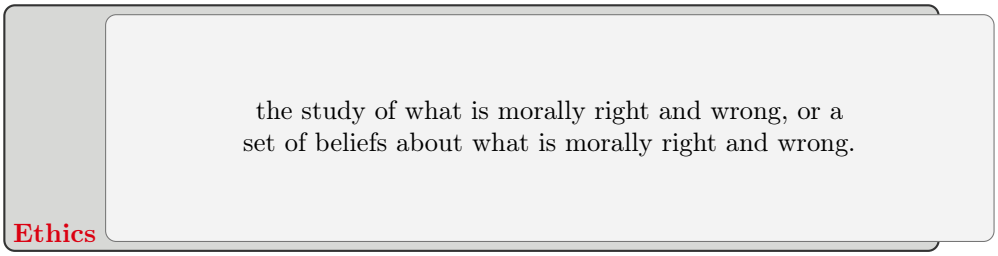
A Formal Definition – Cambridge Dictionary



Dilemma 1: Kill the Baby or Old Person?

Dilema 1: Who to Kill - take 2

The viewpoint of the squirrel

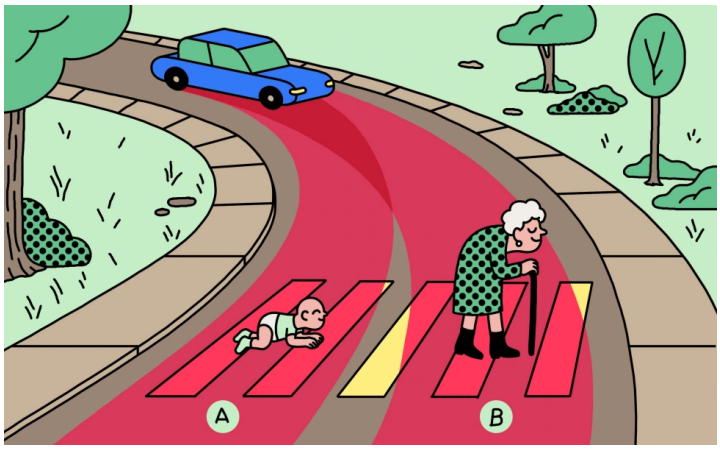


Figure 1: *You can only correct the course of the car a little, so you can reduce the deaths from two to one. Do you choose track A or B? — source: MIT Technology Review — Hao, 2018*

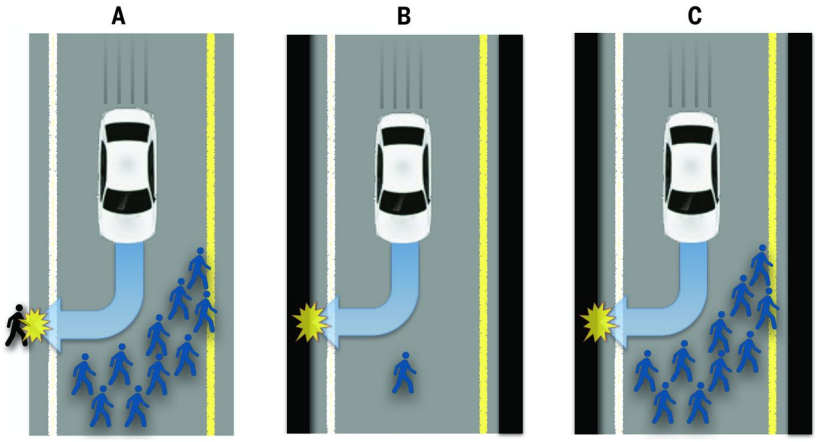


Figure 2: *source: Science — Bonnefon, Shariff, and Rahwan, 2016*
Should we veer and kill the person who is on the pavement? What if there is only one person on the street and there is a wall? How many people to change behaviour?

Figure 3: *Is removing a tree that houses a squirrel ethically correct when building your home? What if you take the viewpoint of the squirrel? What if an advanced society that regards us as squirrels wants to make Earth their home?*

What is ethically acceptable depends on your viewpoint

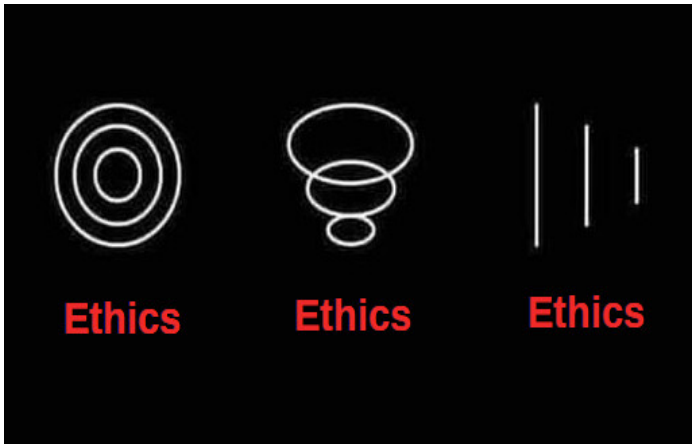


Figure 4: *Ethics is complex and it depends on your point of reference and you frame.*

2 Artificial Intelligence

A Definition of AI

Artificial Intelligence

A cross-disciplinary approach to understanding, modelling, and replicating intelligence and cognitive processes by invoking various computational, mathematical, logical, mechanical, and even biological principles and devices. —Brundage, 2015

or

AI in Britannica.com

the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings

or

AI in Wikipedia

Artificial intelligence (AI) is intelligence demonstrated by machines, as opposed to the natural intelligence displayed by animals and humans.

First Some Simple Questions

- What is exactly Intelligence and how to measure it?

  the ability to acquire and apply knowledge and skills (Oxford Dictionary)

- What is exactly consciousness?

  the state of being aware of and responsive to one's surroundings - Oxfor Dictionary

- What is Self-consciousness? Sentience? Life?

Issues with Morality and AI

- What if AI becomes more intelligent than people? Does it get moral status?
- What about the singularity and benevolence of machines?
- What about enhanced humans (e.g. math implant in brain?)
- What when we can "upload" a human brain? Who owns it? Can we switch it off?
- Does a conscience and sentient AI deserve rights?
- Who are we to decide this?
- Can one delegate agency to the an AI? Who has the moral agency?
- Should we manipulate data for "good"? (and counter-act bias?)

3 Example: Insurance Onboarding

Car Insurance Claims Data

The data contains

- driving related:
  - average daily travel
  - professional or private use
  - living in urban or city area
- car related:
  - type of car (eg. minivan, sports car, sedan, etc.)
  - age of the car
- behaviour on our books:
  - time with us
  - old claims
- driver related:
  - has driver's licence been revoked
  - penalty points on driver's licence
  - years on job (work related)

. . . but also contains

- related to gender and family:
  - number of kids at home
  - single parent or not
  - marital status
  - gender
- education and profession
  - education
  - occupation
- wealth related:
  - value of the car
  - value of the home

We call these the **"protected features"**

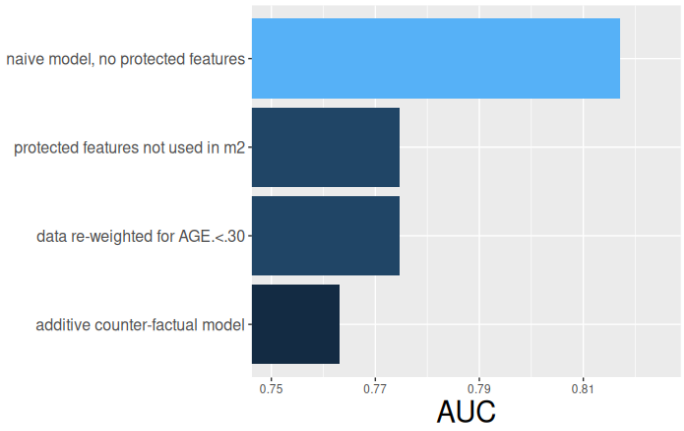
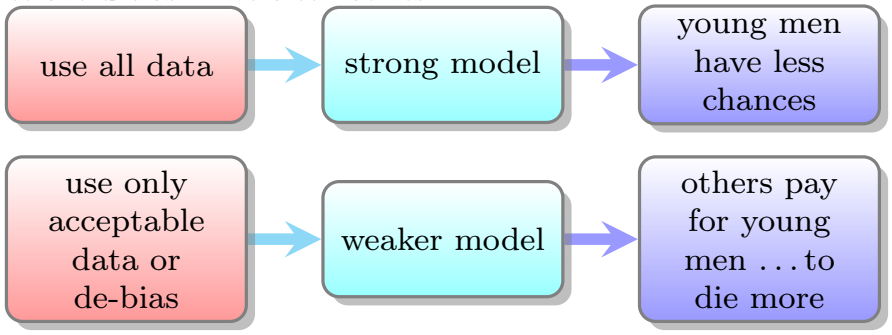


Figure 5: *The discriminating power of different models. The higher the AUC, the stronger the model, the lower the losses on the portfolio, the higher profit (or lower prices) can be.*

The cost of being politically correct

How to avoid bias? Two alternatives



4 Ethics in Data Science

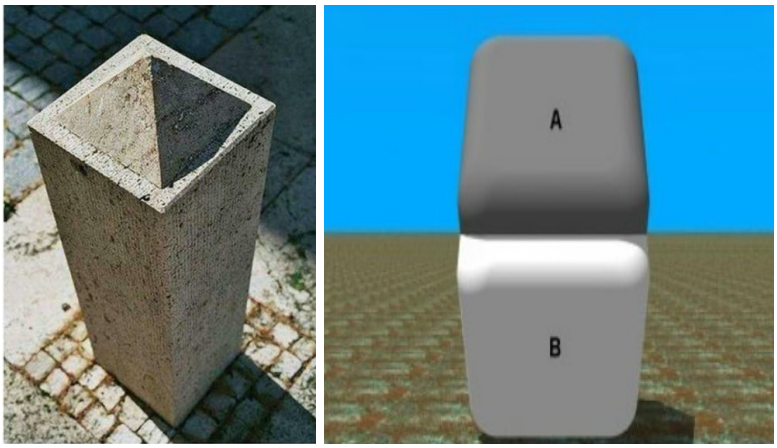
Issues

- user consent
- privacy, data protection
- intellectual property rights, data ownership

- safekeeping: avoiding data theft, cyber security
- trust, surveillance, free will
- competition
- discrimination:
  - bias
  - fairness
  - accountability
  - transparency

5 Conclusions

Visual Biases are systematic miss-interpretations



Fairness is a matter of perspective

We do have an innate sense for what is fair an what not, however that sense is heavily biased towards ourselves. For example, we don't see it as a moral issue to build a house and destroy the home of a squirrel in the process. The squirrel, however is only separated from us by 250 million years of separate evolution. From a society that is a million years ahead of it might seem obvious to simply make earth their home and get rid of us.

If that seems unfair, turn it around. Would it be fair to colonise a planet inhabited by squirrel like mammals and make it our home?

Figure 6: *Fairness is a matter of perspective*

Bias is learnt

Figure 7: *Bias is assuming a solution based on what you have learnt before. It can be useful, but usually is limiting.*

Conclusions

A. Ethics are the moral principles guiding human behavior.

B. Some ethical intuitions are innate, but...

C. Complex ethical challenges often provoke disagreement; perspective shapes moral judgments.

D. Morality cannot be reduced to fixed rules but requires context-sensitive judgment.

E. Data science presents unique ethical dilemmas involving fairness, bias, and accountability.

F. Ethical decision-making involves navigating trade-offs with no perfect solutions; responsibility matters.

References

Bonnefon, Jean-François, Azim Shariff, and Iyad Rahwan (2016). 'The social dilemma of autonomous vehicles'. In: *Science* 352.6293, pp. 1573–1576.

Brundage, Miles (2015). 'Taking superintelligence seriously: Superintelligence: Paths, dangers, strategies by Nick Bostrom (Oxford University Press, 2014)'. In: *Futures* 72, pp. 32–35.

Hao, Karen (2018). 'Should a self-driving car kill the baby or the grandma? Depends on where you're from'. In: *URl:https://www.technologyreview.com/s/612341/a-global-ethics-study-aims-to-help-ai-solve-the-self-drivingtrolley-problem/*.