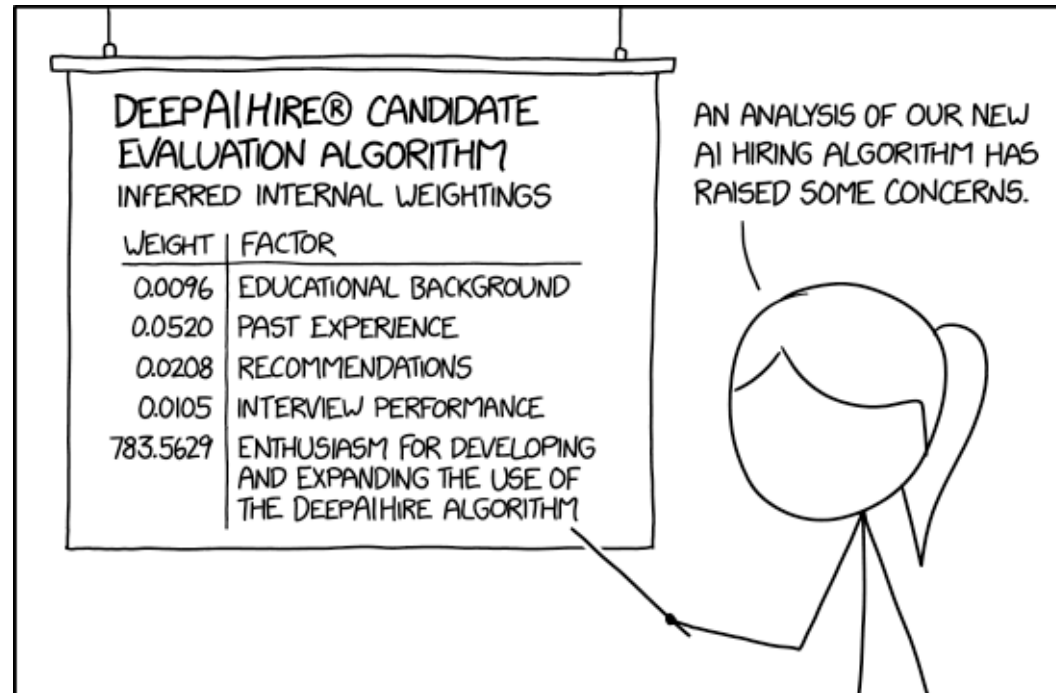


Ethics in data analysis

Introduction to data analysis: Lecture 13

Ori Plonsky

Spring 2023



Source: xkcd

Ethics in data analysis

- Why should we care about ethics?
- What should we worry about?

Ethics in data analysis

- Why should we care about ethics?
 - Avi Gal's guest lecture
 - Regulation: governments want to regulate; firms to respond to regulations
 - Reputation: firms can get bad name if they follow unethical practices
 - Revenue: Consumers (say they?) care about ethics; firms may get increased business
 - Technology changes society: who makes sure it is not for the worse?
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 - Technology changes society: who makes sure it is not for the worse?
- What should we worry about?
 - Unintended consequences
 - Deliveroo case study (Avi Gal)
 - Privacy; surveillance
 - (Dropped due to strike)
 - Bias: Patterns in algorithmic systems that produce unfair outcomes

Algorithmic bias

- Real world is full of biases
- Data comes from the real world
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Algorithmic bias

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- Data comes from the real world
- Often, algorithms are trained on biased data and thus generate biased predictions
 - Boston potholes
 - Predictive policing
 - Parole decisions



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the robot apocalypse was short-lived.

When an Algorithm Helps Send You to Prison

By ELLORA THADANEY ISRANI OCT. 26, 2017

[SCIENCE & THE PUBLIC](#) [SCIENCE & SOCIETY](#), [SCIENCE & THE PUBLIC](#)

Data-driven crime prediction fails to erase human bias

Poor, minority communities flagged as drug crime trouble spots in case study

BY RACHEL EHRENBURG 10:00AM, MARCH 8, 2017

How a Machine Learns Prejudice

Artificial intelligence picks up bias from human creators—not from hard, cold logic

Artificial Intelligence's White Guy Problem

By KATE CRAWFORD JUNE 25, 2016

האם האלגוריתם מאחורי כרטיס האשראי של אפל מפלה נשים?

החקירה נפתחה בעקבות בעקבות ציוץ של היזם דיוויד היינמיייר הנסון, מסוף השבוע • לדברי הנסון, הוענקה לו מסגרת אשראי גבוהה פי 20 לעומת אשתו באפל קארד, למרות שדירוג האשראי שלה גבוה יותר



World Business Markets Politics TV

10/11/2019 אושרית גן-אל

Midterm Elections

Imprisoned In Myanmar

Sectors Up Close

Breakingviews

Investing

Future of Money

Charged:

BUSINESS NEWS OCTOBER 10, 2018 / 6:12 AM / A MONTH AGO

Amazon scraps secret AI recruiting tool that showed bias against women

Jeffrey Dastin

8 MIN READ



Proxies

- Solution to biased data problem?

Proxies

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 - Just don't use features you don't want the algorithm to make decisions by
 - race/gender/age/sexual orientation/ethnicity/religion

Proxies

- Solution to biased data problem?
 - Just don't use features you don't want the algorithm to make decisions by
 - race/gender/age/sexual orientation/ethnicity/religion
- Problem: proxy features
 - Not using ethnicity
 - But using home address/name of your high school/language in Bagrut/who liked you on Facebook/musical choices...

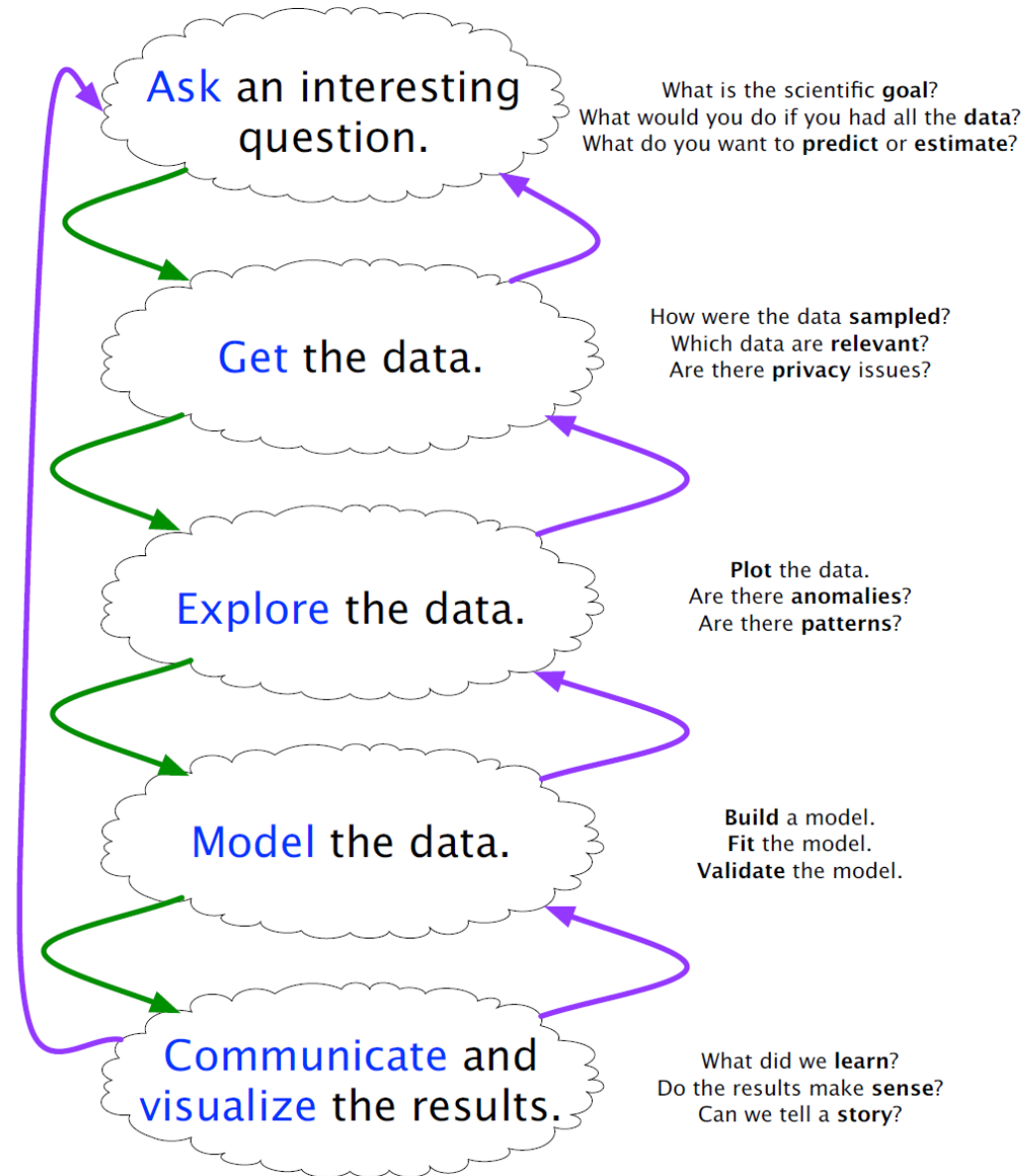
Addressing algorithmic bias

- Awareness...
- Carefully consider implications
 - What data did we collect/use?
 - How did we define our decision making model?
 - How will we use the output?
- Interpretability of algorithms(?)
 - “Human in the loop”
- De-biasing algorithms



If humans were algorithms, they would be banned from use in courtrooms.

Summary



Summary

- Notebook

