

**PROFESSIONAL CERTIFICATE
IN MACHINE LEARNING AND
ARTIFICIAL INTELLIGENCE**

**Office Hour #4 with
Matilde D'Amelio**

March 31, 2022 at 10 pm UTC

MODULE 3



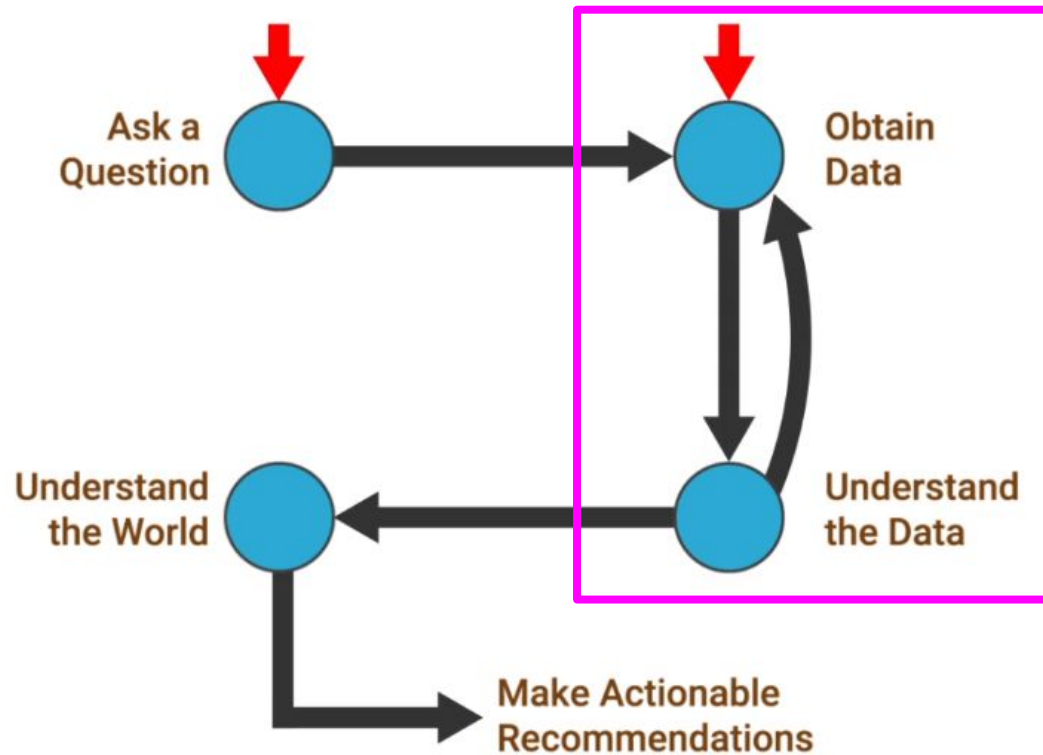
DEEP LEARNING for CREATING MUSIC



Source: <https://www.youtube.com/watch?v=wYb3Wimn01s&t=143s> (minutes 0:40 - 3.35)

Data Science Lifecycle

The Data Science Lifecycle



OBTAIN AND COLLECT DATA

- 1. Find the Right Data (from different datasets)**
- 2. Explore Datasets (i.e., plotting)**
- 3. Merge/Join Datasets**
- 4. Data Cleansing**
- 5. Explore the Final Dataset (i.e., plotting)**

COLLECT the RIGHT DATA

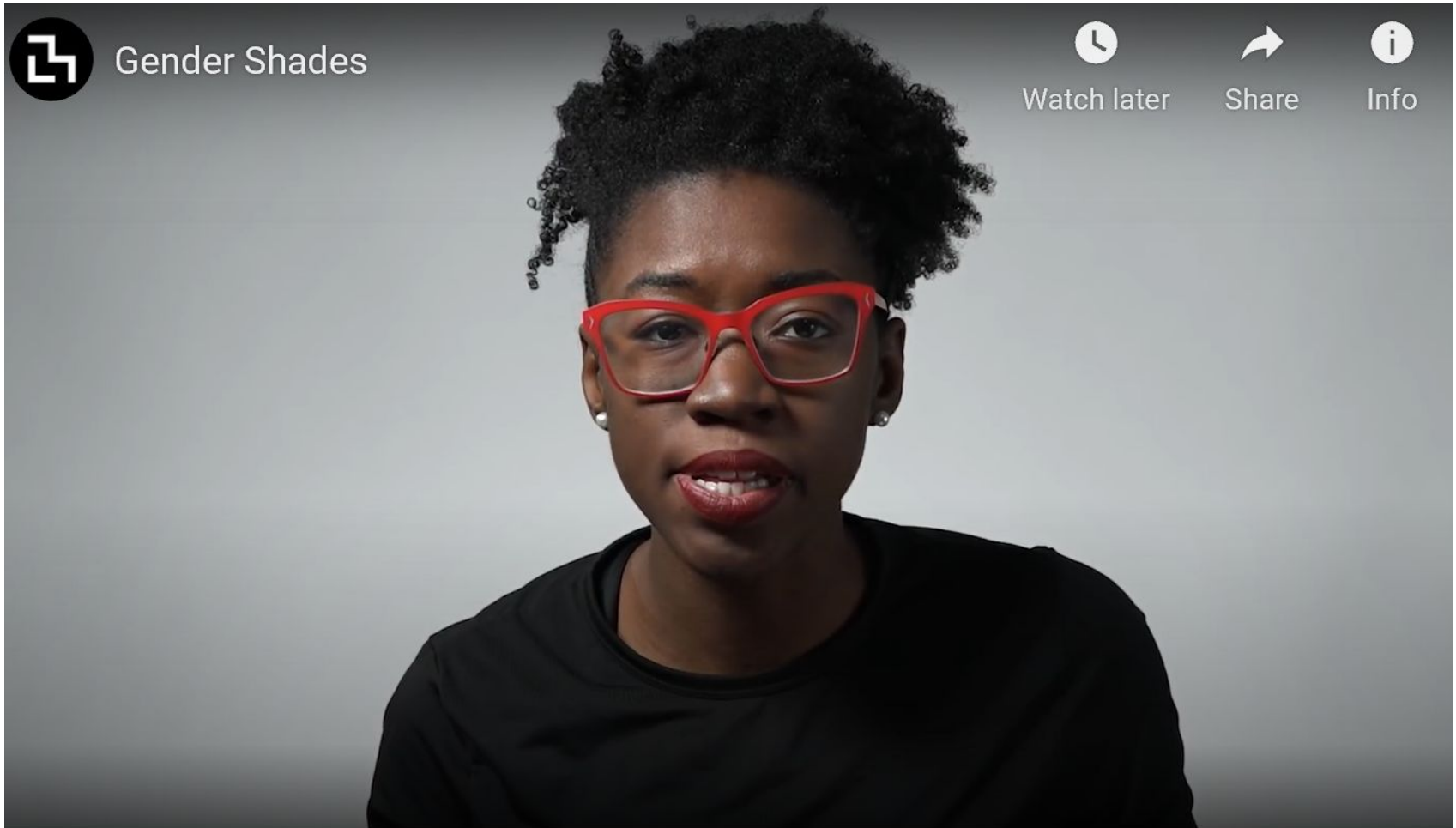
Collect the right data to avoid **BIAS**
(review the business questions if necessary)

RETAIL OCTOBER 11, 2018 / 12:04 AM / UPDATED 3 YEARS AGO

Amazon scraps secret AI recruiting tool that showed bias against women

A costly inequality: Women pay nearly £17,000 more to borrow over a lifetime.

COLLECT the RIGHT DATA



<https://youtu.be/TWWsW1w-BVo>

READINGS ABOUT BIAS PROBLEMS

1. <https://www.creditkarma.co.uk/insights/i/gender-credit-gap/>
2. <https://www.reuters.com/article/us-amazon-com-jobs-automation-insight/amazon-scrap-secret-ai-recruiting-tool-that-showed-bias-against-women-idUSKCN1MK08G>
3. <https://sitn.hms.harvard.edu/flash/2020/racial-discrimination-in-face-recognition-technology/>
4. <https://news.mit.edu/2018/study-finds-gender-skin-type-bias-artificial-intelligence-systems-0212>

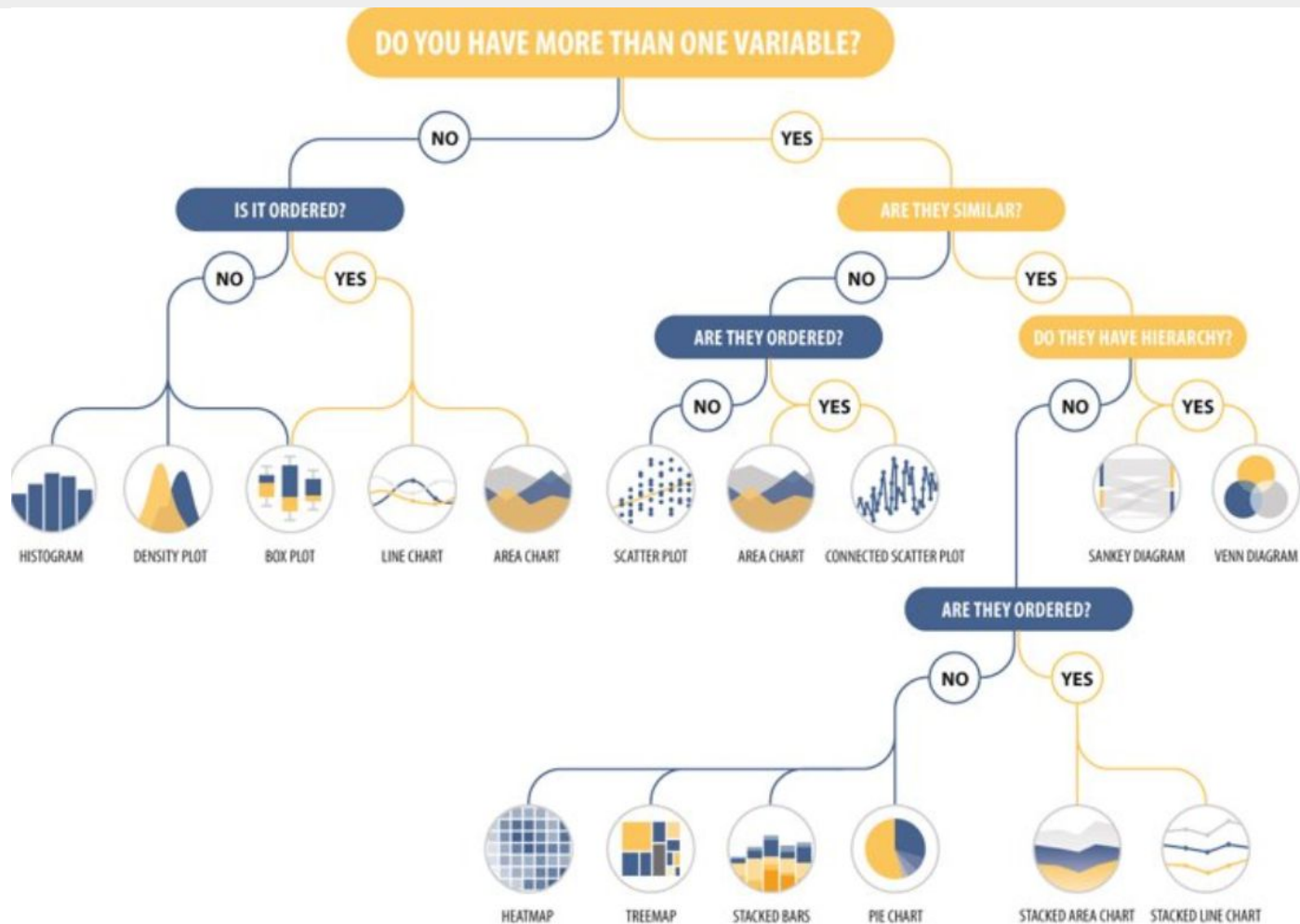
DISCUSSION

Could you identify any bias you have faced when dealing with ML/AI?

What are the consequences of this bias?



DATA VISUALISATION FUNDAMENTALS



CASE STUDY: DHL



1 HOW IT WORKS

Location data from sensors on equipment such as scanners and material handling equipment (MHE), and shelf locations are transmitted centrally in real time and wirelessly via existing Wi-Fi infrastructure within the warehouse.

2 Data from these locations are aggregated and overlaid with warehouse order activities from the warehouse management system on-site and mapped against the warehouse layout, providing a visual representation of all data in real-time with heat maps and location geotags that evolve over the course of the day.



QUESTIONS?

