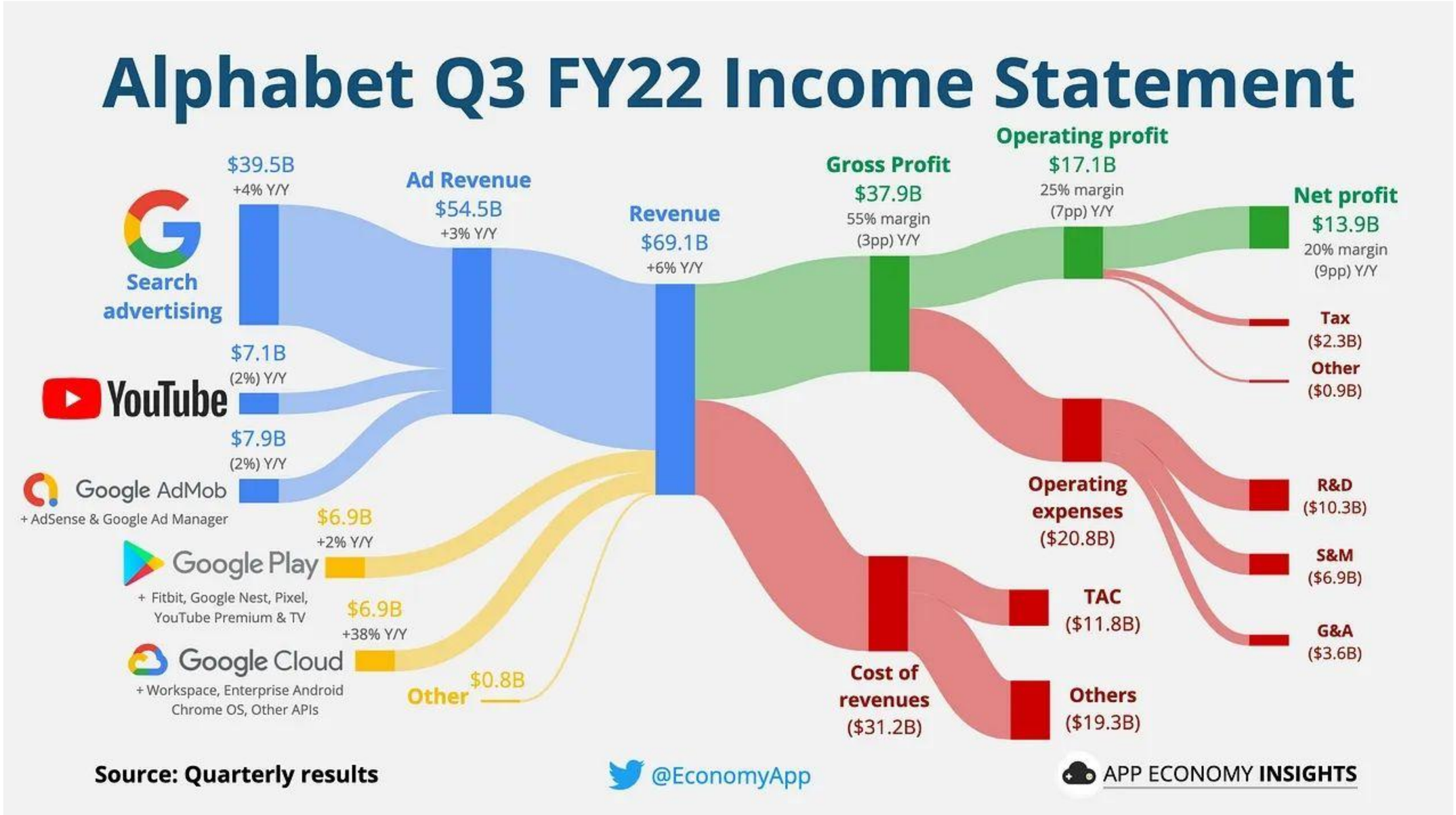
Data Visualization

Agenda

1. Data Visualization Examples
2. Data Science Intro
3. Data Science Jobs
4. Analysts Jobs (Data vs Business vs BI)
5. Coursera - Two Courses
6. Questions

Data Visualization Examples

Data Visualization Example 1: Sankey Diagram



Data Visualization Example 2: Dashboard

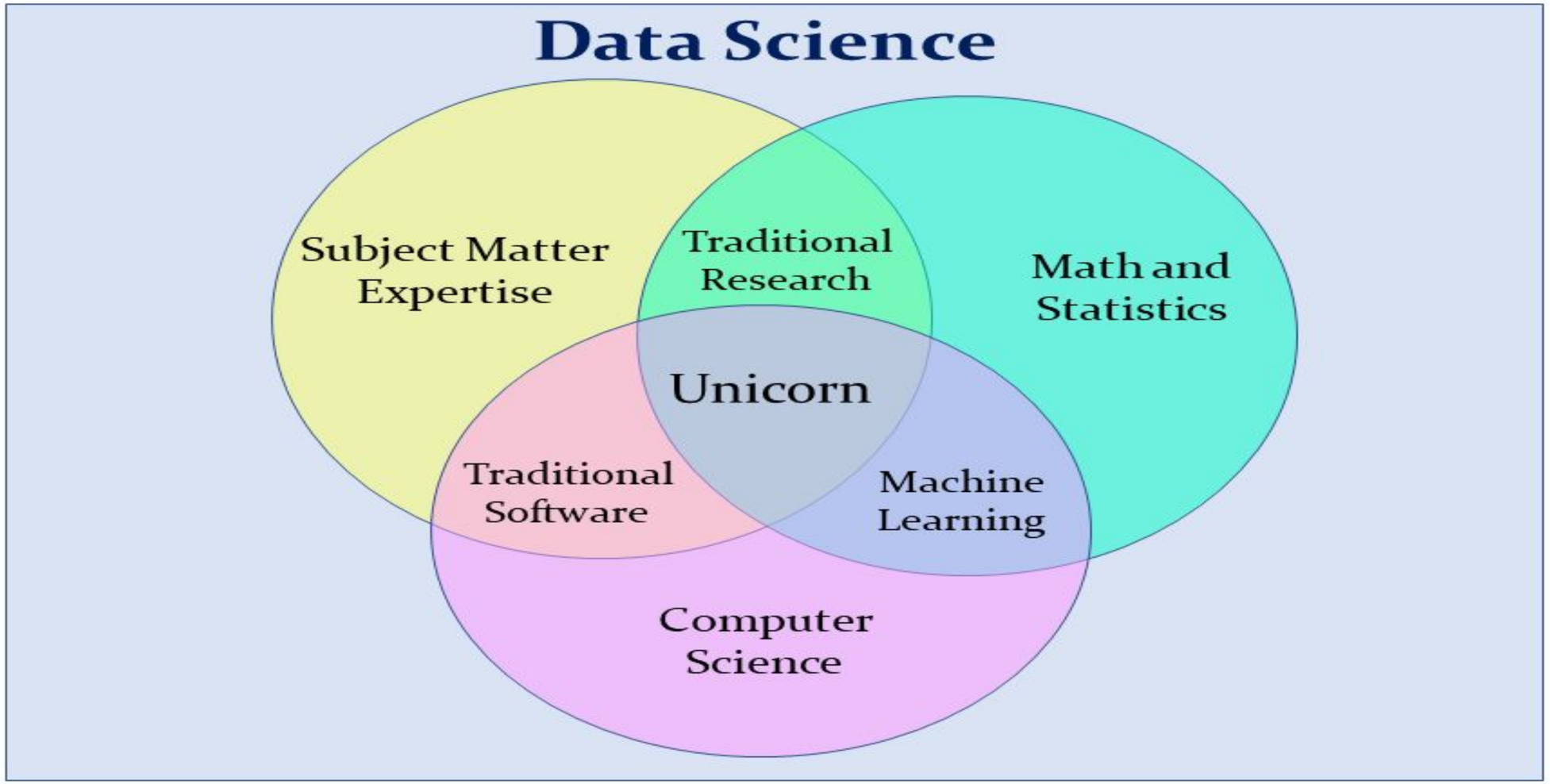
Data Science Intro

Data Science

- combines several disciplines including:
  a. Math
  b. statistics
  c. computer science

- How to become a **Unicorn** in **Data Science**?

Data Science Venn Diagram 2.0



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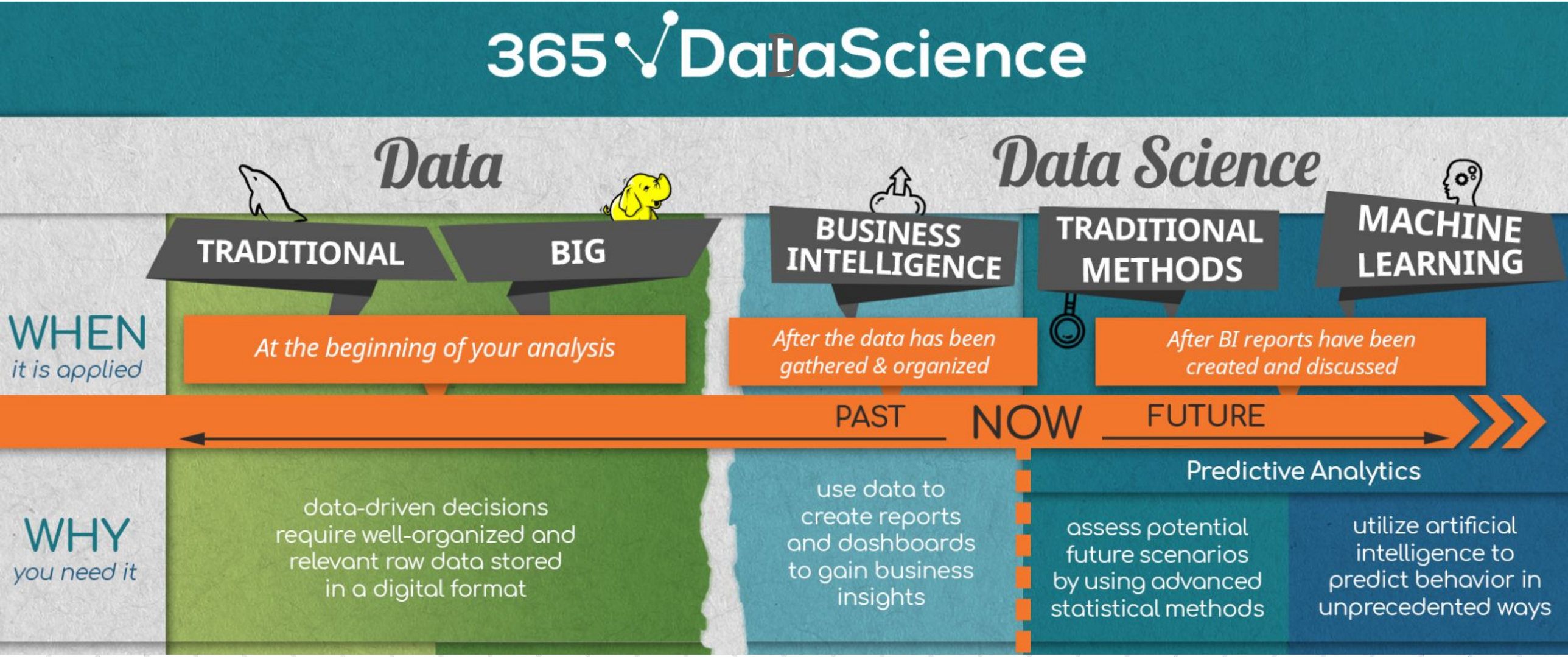
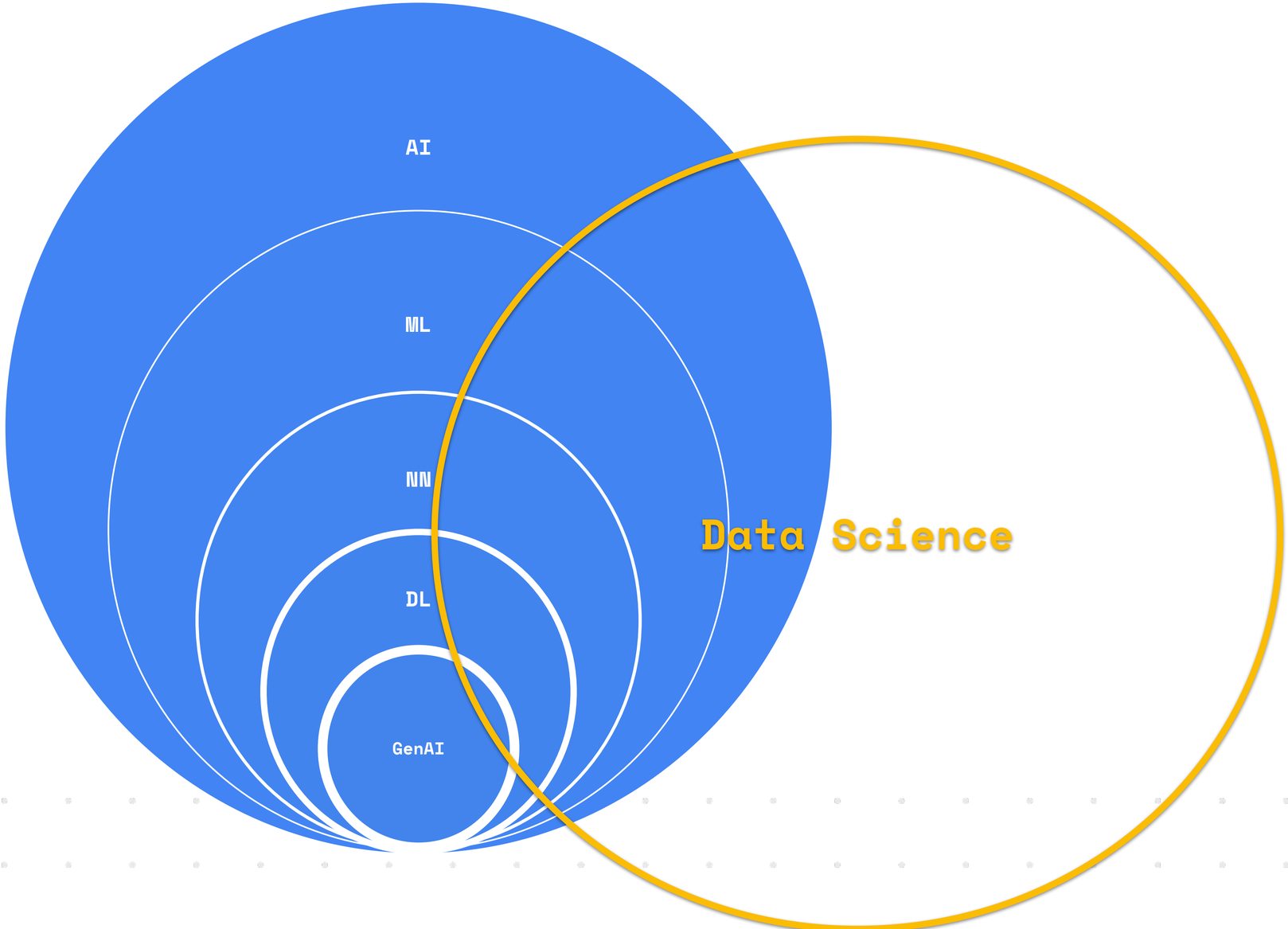
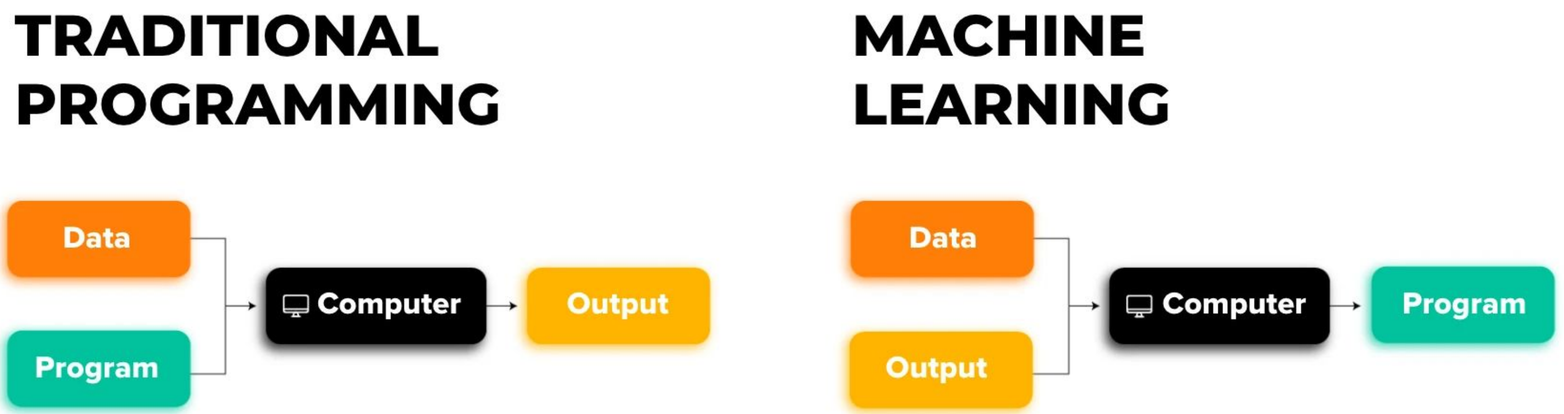
365 DataScience Infographic (When & Why)

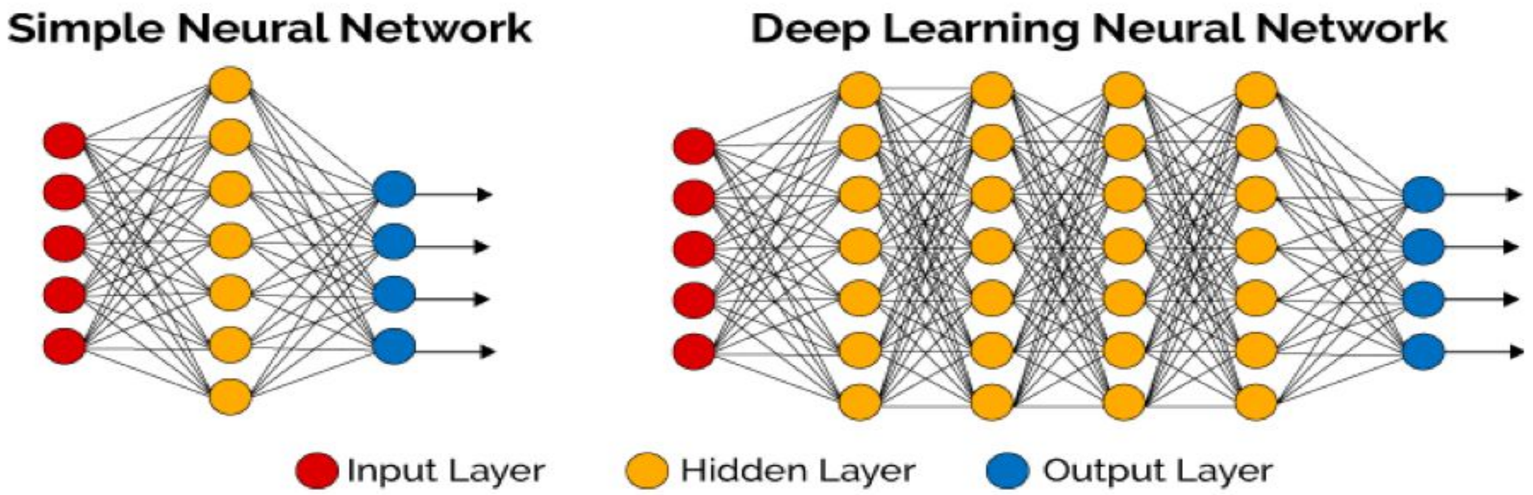


Data Science & AI from another Viewpoint



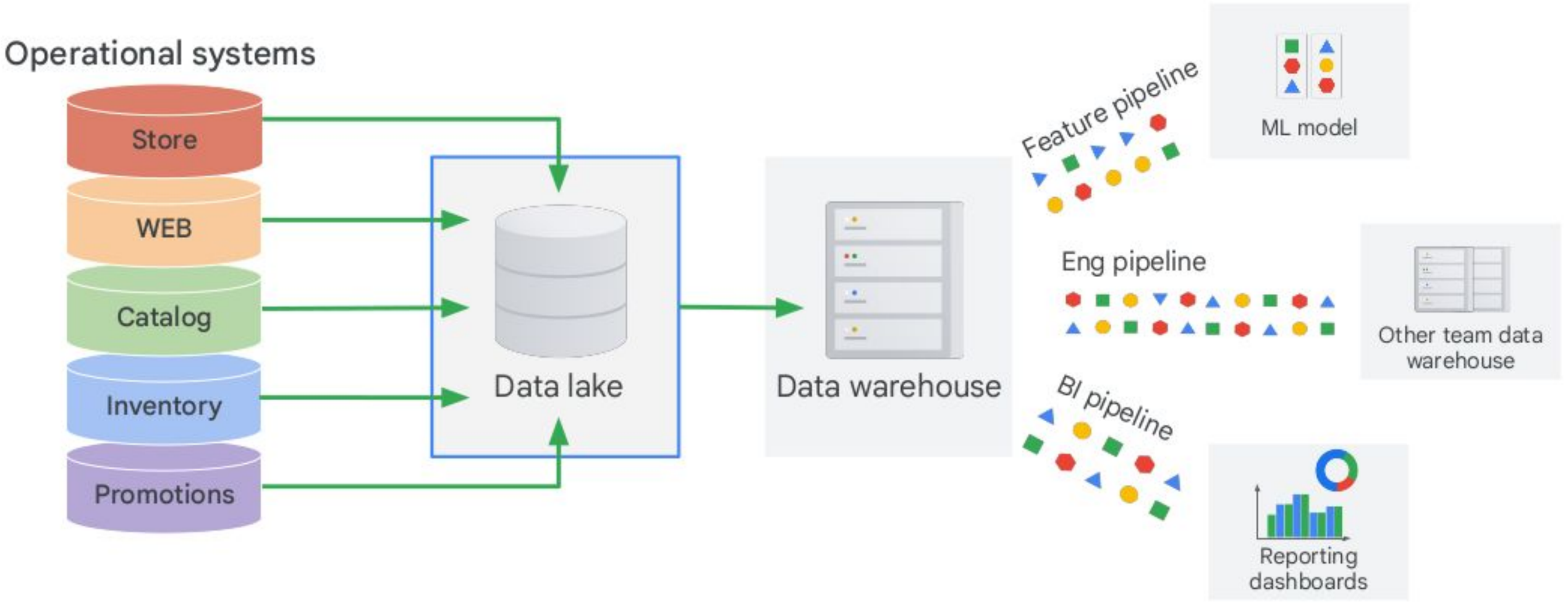
Data Science & AI/ML/DL



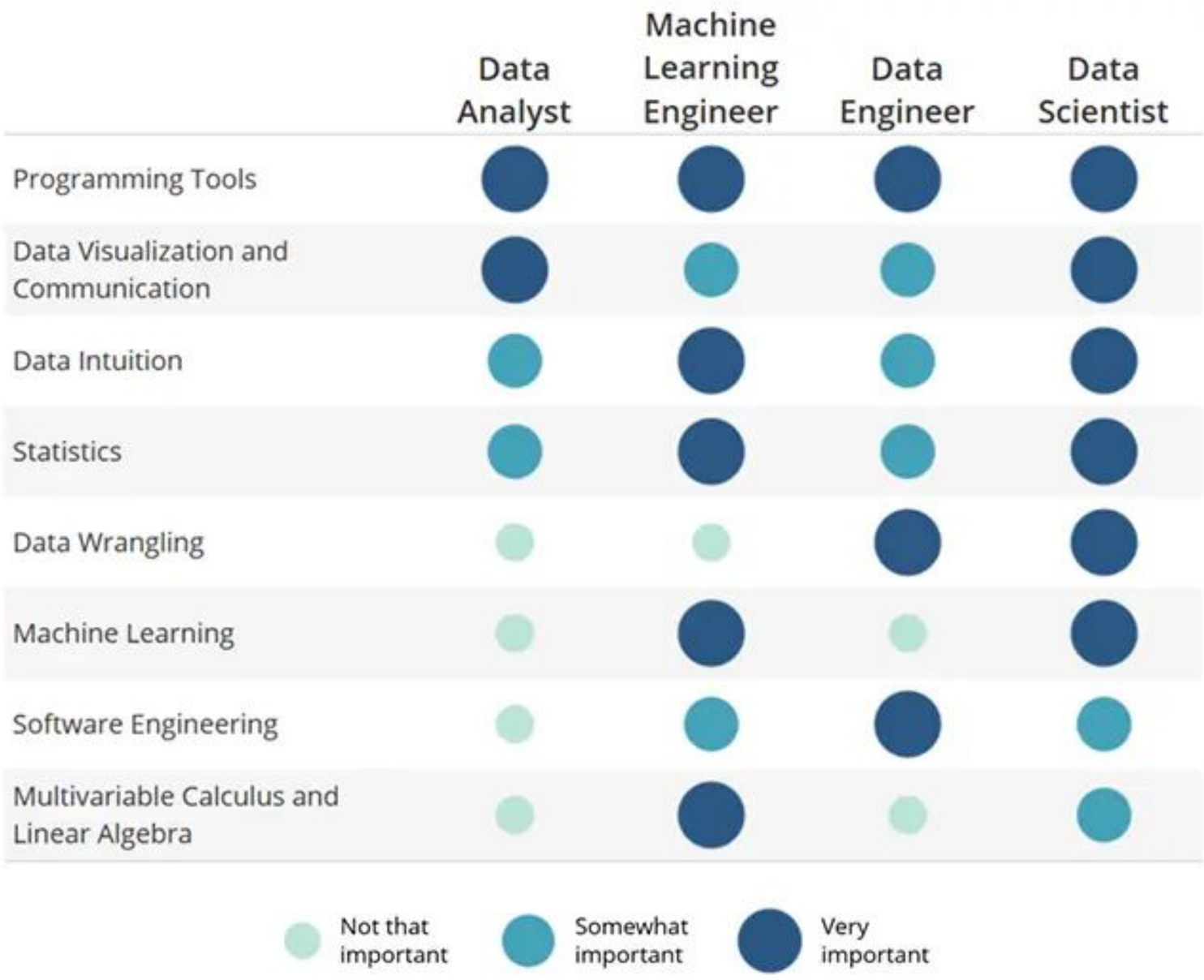


Data Science Jobs

Data Science Jobs: Where is the role of each?



Data Science Jobs: Long-lasting Career



Data Science Jobs: 1) Data Analyst

- Job might consist of tasks like:
  - pulling data out of **SQL** databases
  - becoming an **Excel** or **Tableau** master
  - producing basic **Data Visualizations** and **Reporting Dashboards**
  - On occasion:
    - analyze the results of an **A/B Test**
    - take the lead on company's **Google Analytics account**

- Some companies: **Data Scientist** is synonymous to **Data Analyst**

Data Science Jobs: 2) ML Engineer

- Some companies: **data** or **data analysis platform** is the product
  - so, **Data Analysis** or **ML** can be pretty intense
  - so, there is a need for someone who:
    - has a formal mathematics or statistics background
    - is hoping to continue down a more academic path

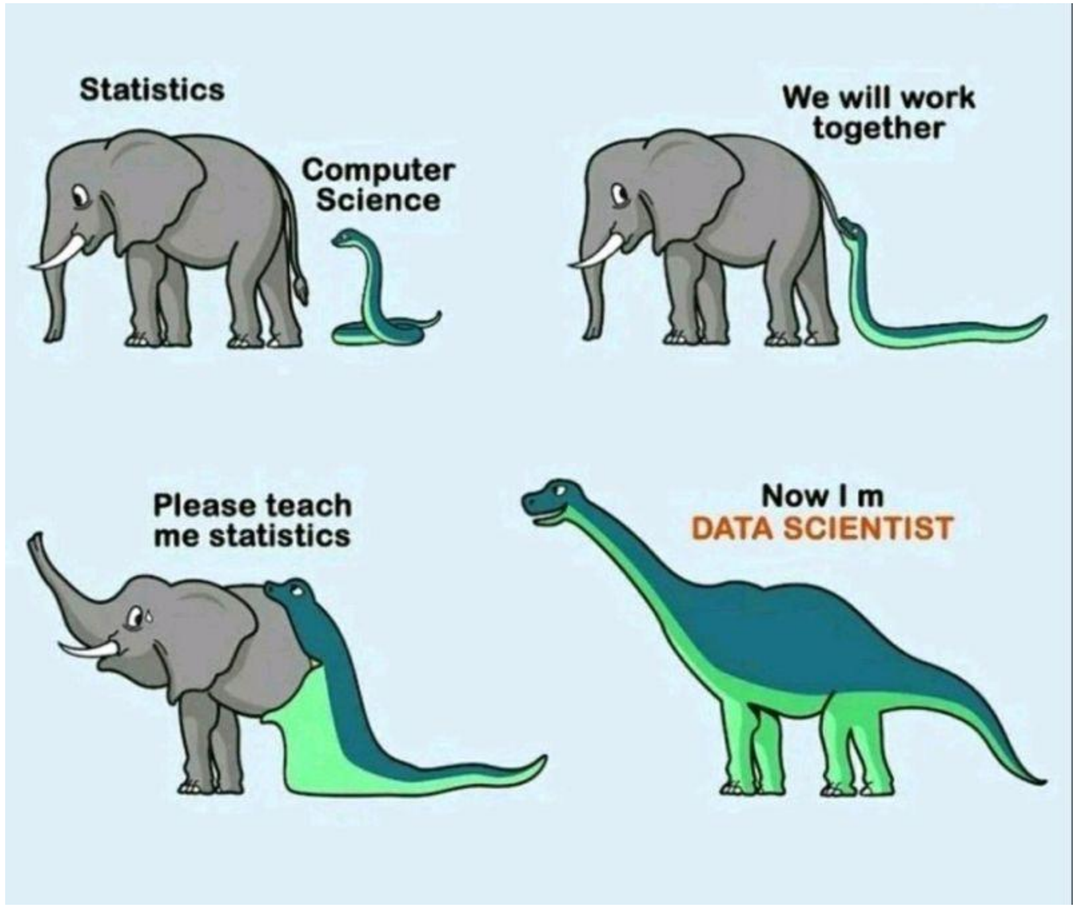
- **ML Engineers**
  - often focus more on producing great **data-driven products**

Data Science Jobs: 3) Data Engineer

- Some companies: have **lot of traffic** and **large amount of data**
  - so, there is a need for someone who:
    - set up lot of **data infrastructure** that the company will need

- Job postings listed under **Data Scientist** and **Data Engineer**
  - strong software engineering skills are more important
  - heavy statistics and ML expertise are less important

Data Science Jobs: 4) Data Scientist



Often used as a blanket title

- to describe jobs that are drastically different

Data Science Jobs: 5) Data Generalist

- Some companies: look 4 **Generalist** to join data scientists team
  - these companies cares about data but probably isn't a data company

- **Data Generalist** most important skills:
  - familiarity with tools designed for **Big Data**
  - experience with messy, real-life datasets

- **Data Generalist** can:
  - perform analysis
  - touch production code
  - **Visualize Data**

Data vs Business vs BI

Business Case Studies

- are real-world experiences of how business people and companies succeed or fail
- examine events that have already happened

- We do not need a dataset to learn from **business cases**
- We could learn from them and attempt to prevent making a similar mistake in future

Business Case Studies: Example

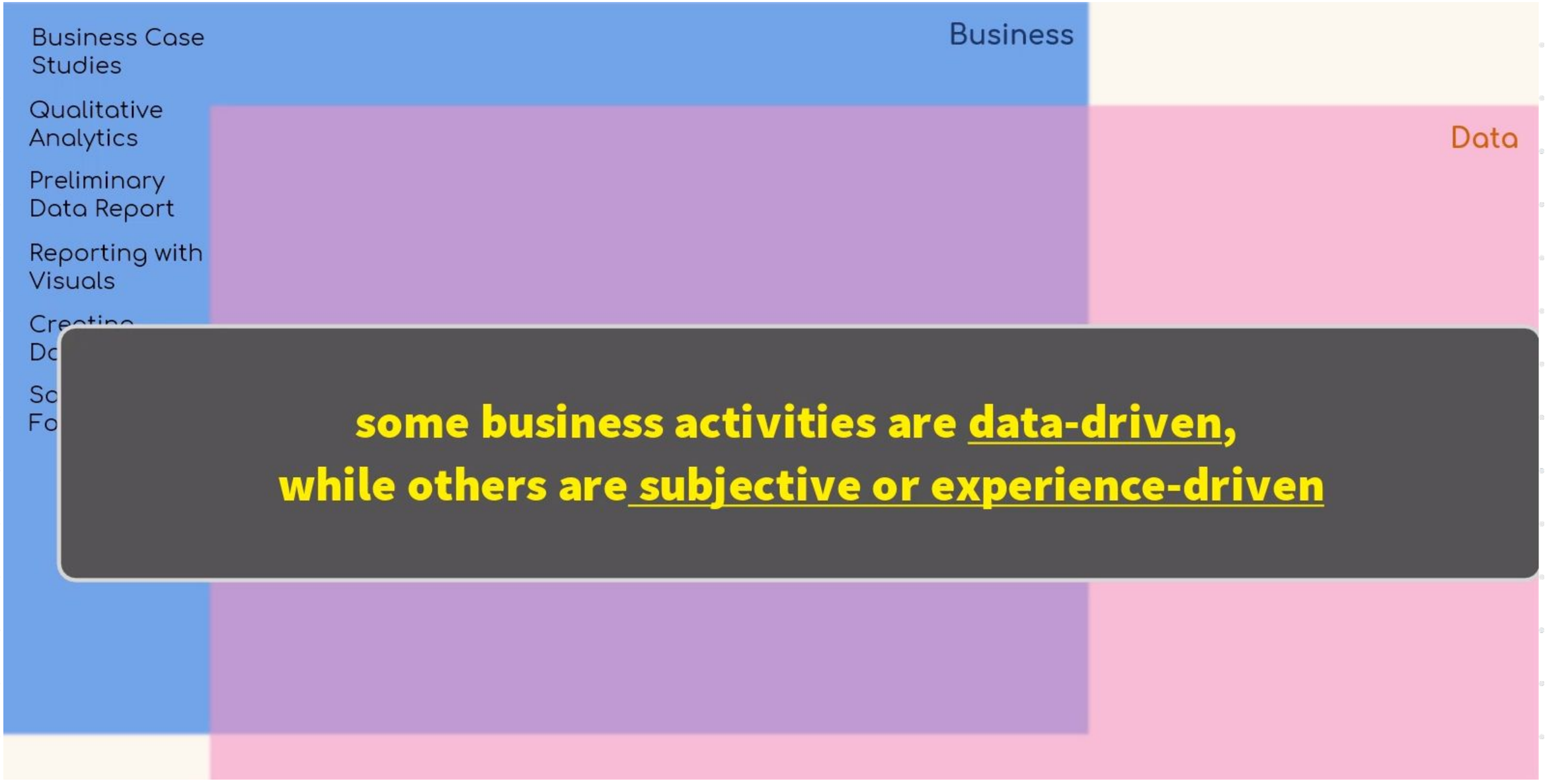
Ryanair: cost-friendly budget airline that sells tickets so cheap

- travel to less busy airports
  - far from the city center
  - outside business hours
- charges for almost every small addition
- tries to keep planes for small times on airfields to save on rent
- operates only one type of aircraft to speed out ground crew processes

Business

Business Case Studies
Qualitative Analytics
Preliminary Data Report
Reporting with Visuals
Creating Dashboards
Sales Forecasting
Business

Data?


Business Case Studies
Qualitative Analytics
Preliminary Data Report
Reporting with Visuals
Business
Data
some business activities are data-driven,
while others are subjective or experience-driven

Data

Business Case Studies
Business
Qualitative Analytics
Data
Preliminary Data Report
Reporting with Visuals
Creating Dashboards
Sales Forecasting

Data Analysts vs Business Analysts vs BI Analysts

Data Analyst common tasks:

- Working with stakeholders to define a problem or business need
- Identifying and sourcing data
- Cleaning and preparing data for analysis
- Analyzing data for patterns and trends
- **Visualizing data** to make it easier to understand
- Presenting data in such a way that it tells a compelling story

Data Analysts vs Business Analysts vs BI Analysts

Business Analyst common tasks:

- Evaluating a company’s current functions and IT structures
- Reviewing processes to identify areas for improvement
- Interviewing team members to identify areas for improvement
- Presenting recommendations/findings to management and other key stakeholders
- **Creating visuals** and financial models to support business decisions
- Training and coaching staff in new systems

Data Analysts vs Business Analysts vs BI Analysts

BI Analyst:

- Somewhat of a hybrid between **Business Analyst** and **Data Analysts**
- They use analysis, modeling, and **visualization** of:
  1. industry trends
  2. competitive landscape
  - to help businesses cut losses and increase profits

Coursera - Two Courses

Coursera Data Warehouse Course Link

https://www.coursera.org/learn/python-for-data-visualization?specialization=ibm-data-science

Enroll in Coursera Courses - 1

coursera.org/learn/data-analysis-with-python?specialization=ibm-data-science

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Browse > Data Science > Data Analysis

Data Analysis with Python

4.7 16,233 ratings | 93%

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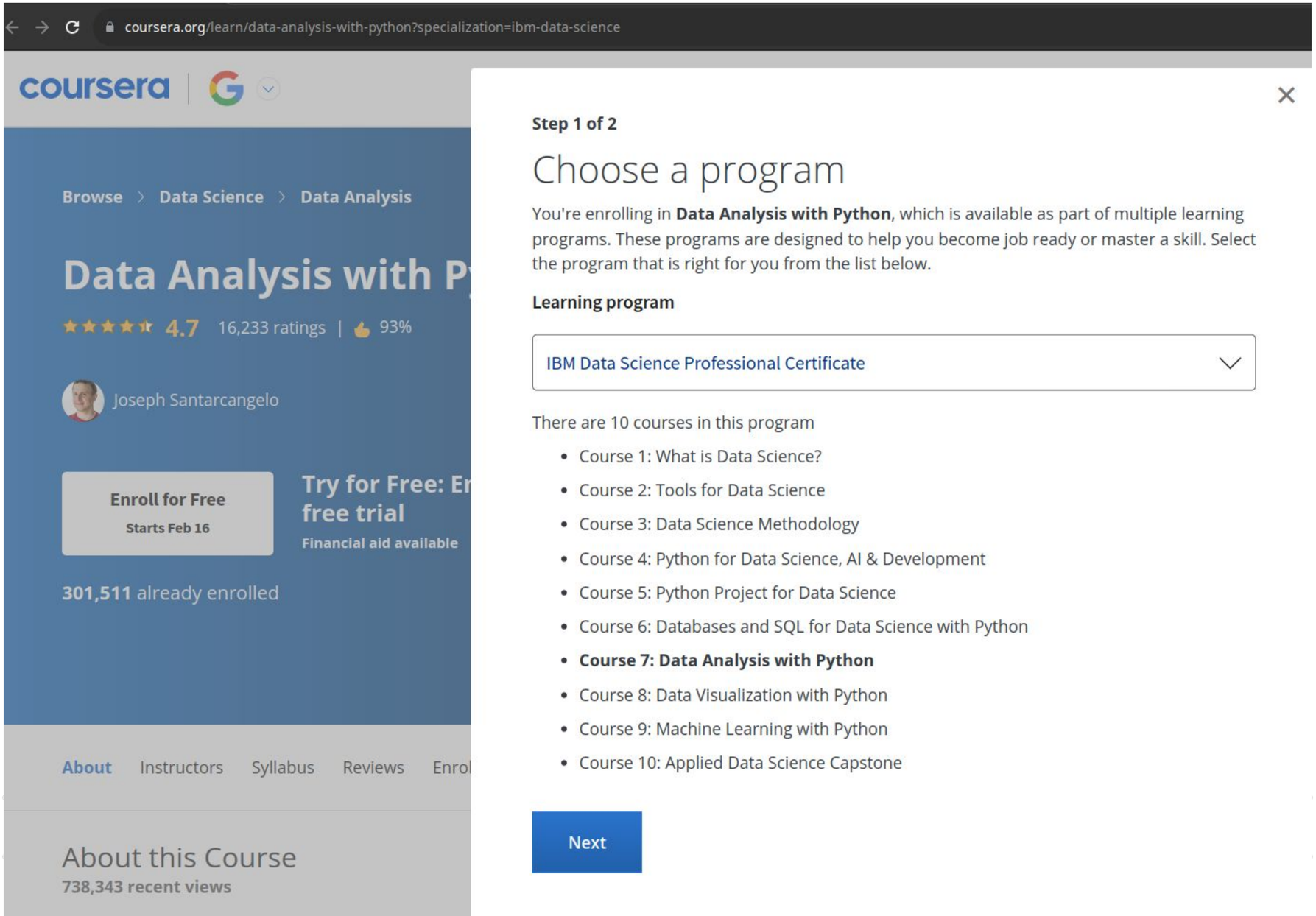
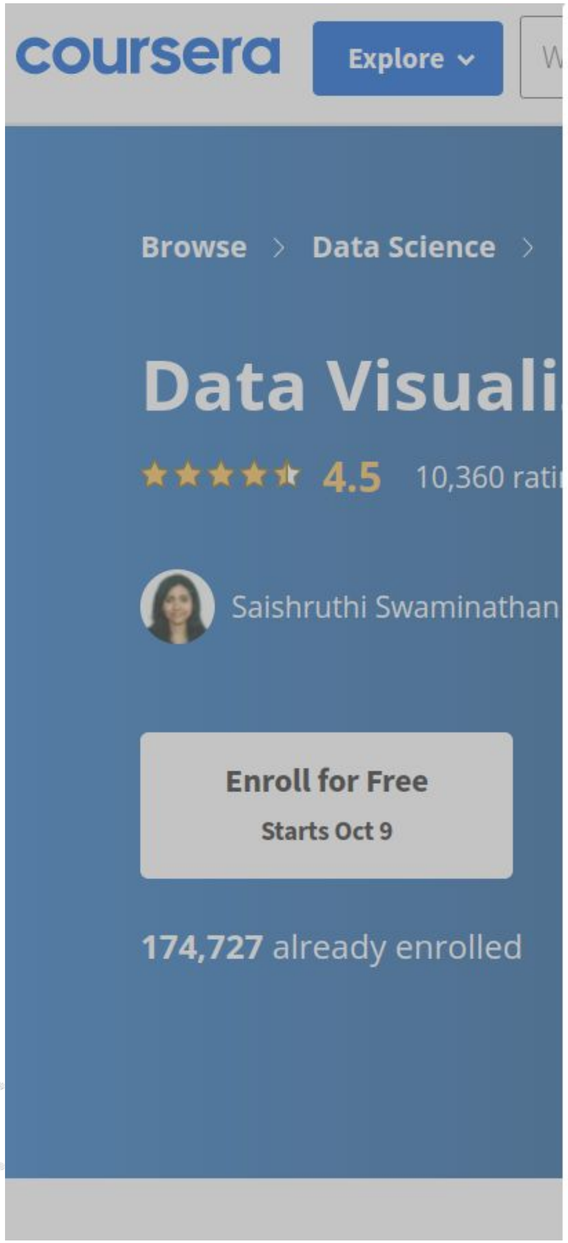
Enroll in Coursera Courses - 2



Enroll in Coursera Courses - 3



Step 2 of 2

7-day Free Trial

Data Visualization with Python is part of the larger IBM Data Science Professional Certificate.
Your 7-day free trial includes:

- **Unlimited access to all courses in the Certificate**
  Watch lectures, try assignments, participate in discussion forums, and more.
- **Cancel anytime.**
  No penalties - simply cancel before the trial ends if it's not right for you.
- **$39 USD per month to continue learning after trial ends.**
  Go as fast as you can - the faster you go, the more you save.
- **Certificate when you complete.**
  Share on your resume, LinkedIn, and CV.

Start Free Trial

Audit the course

Questions

Links

https://github.com/fcai-b/dv

References

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    - 4 Types of Data Science Jobs
2. https://www.coursera.org/articles/data-analyst-vs-business-analyst
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