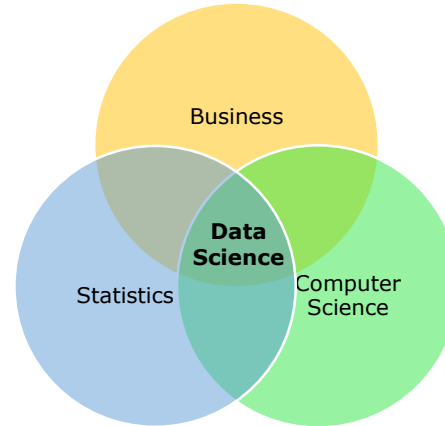


Data Science Cheat Sheet for Managers

Data Science Buzzwords:

- **Data Science:**
Use methods, algorithms and systems from various disciplines like Computer Science, Statistics and Mathematics to extract **knowledge from data**.
- **Data Analytics:**
Process of transforming raw data to information for better **decision-making**.
- **Artificial Intelligence:**
Machines which can replicate **human intelligence**.
- **Machine Learning:**
Algorithms that **learn from data** and improve performance. Subset of Artificial Intelligence.
- **Data Engineering:**
Store and maintain (big) data in efficient, performant and reliable way.

Data Scientist Skillset



Types of Analytics:

- **Descriptive Analytics**
Describe dataset with statistical measures, KPIs and charts. → What is the average age of my customers?
- **Predictive Analytics:**
Use Data Science (usually Machine Learning) to predict future events based. → Which customers will churn?
- **Prescriptive Analytics:**
Find best course action given a variety of alternatives. → How can we prevent certain customers from churning?

The Data Science Workflow

1) Business/Data Understanding (Descriptive Analytics)

2) Data Preparation

3) Modeling (Predictive Analytics)

4) Evaluation (Predictive Analytics)

Types of Machine Learning

	Supervised Learning	Unsupervised Learning
Purpose	Predict events based on current/past events. (labels available)	Identify pattern in data. (no labels available)
Example	Which customers will churn?	How can we segment customers based on demographics?

Data Science Tools

Data Engineering	Data Visualization	Machine Learning	Data Analytics
SQL, Hadoop, Spark, Python	Tableau, Power BI, Looker, Excel	Python, R, KNIME	SPSS, SAS, Excel