

# data science topics

## **Topic : Introduction to data science**

- Data scientist skills
- Data scientist responsibilities
- data vs information

## **Topic : Presenting data science projects**

- Planning
- performing
- Data visualization
- Data analytics

## **Topic : Ethics of data science**

- Code of ethics
- Privacy, transparency and security
- Consent
- Fairness and Algorithms

## **Topic : Data manipulation**

- What is data manipulation?
- Tools
- Techniques

## **Topic : Artificial intelligence**

- AI history
- Three phases of AI
- Learning processes
- Strong AI vs. weak AI
- AI ethics
- Case studies
  - business
  - education

- healthcare
- finance

## **Topic : Machine Learning**

- Mathematics for machine learning
  - Linear algebra and discrete mathematics
  - Multivariate calculus
  - Statistics
- Machine learning algorithms
- Machine learning pipeline
- Optimisation for machine learning

## **Topic : Deep learning**

- Deep learning vs machine learning
- Natural language processing (NLP)
- Self learning
  - Self-learning agents in games

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