AI IN EVERYDAY LIFE
SCICOMM

Unit1 - Introduction

UNIVERSITÀ DEGLI STUDI DI TRENTO
Dipartimento di Ingegneria e Scienza dell'Informazione

DataScientia
Unitas per Varietatem

OPEN UNIVERSITY OF CYPRUS

CY. center for algorithmic transparency

CREATORS AND PAST EDITIONS

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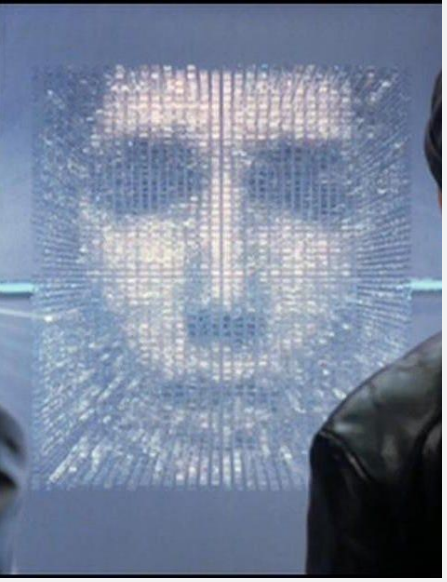
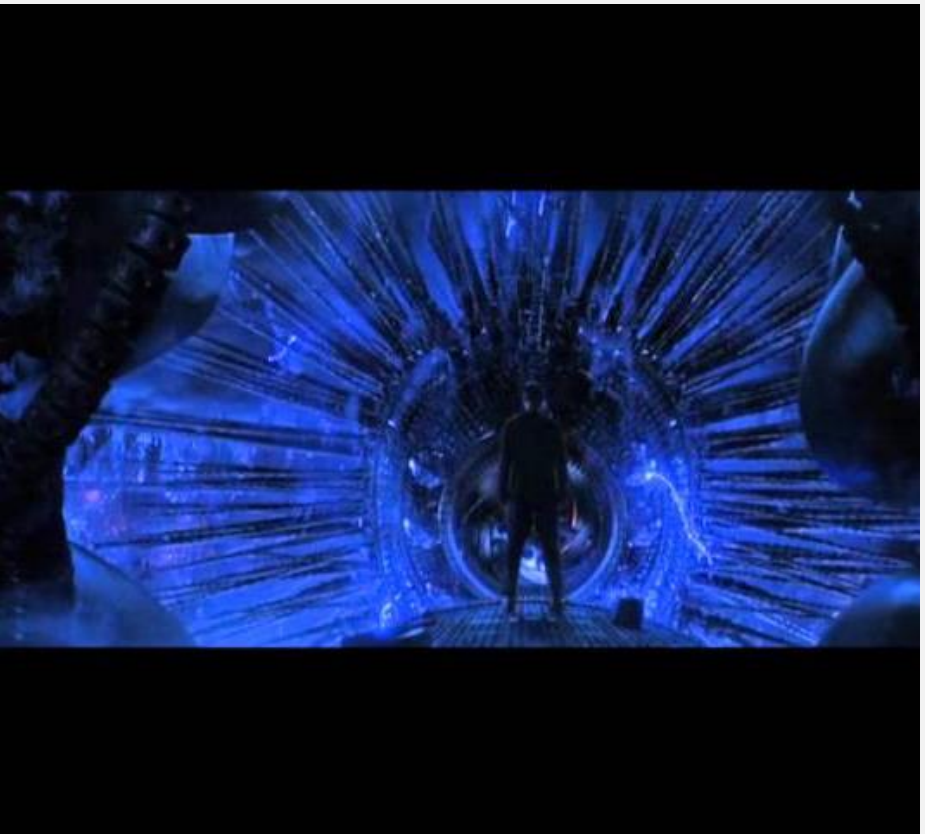
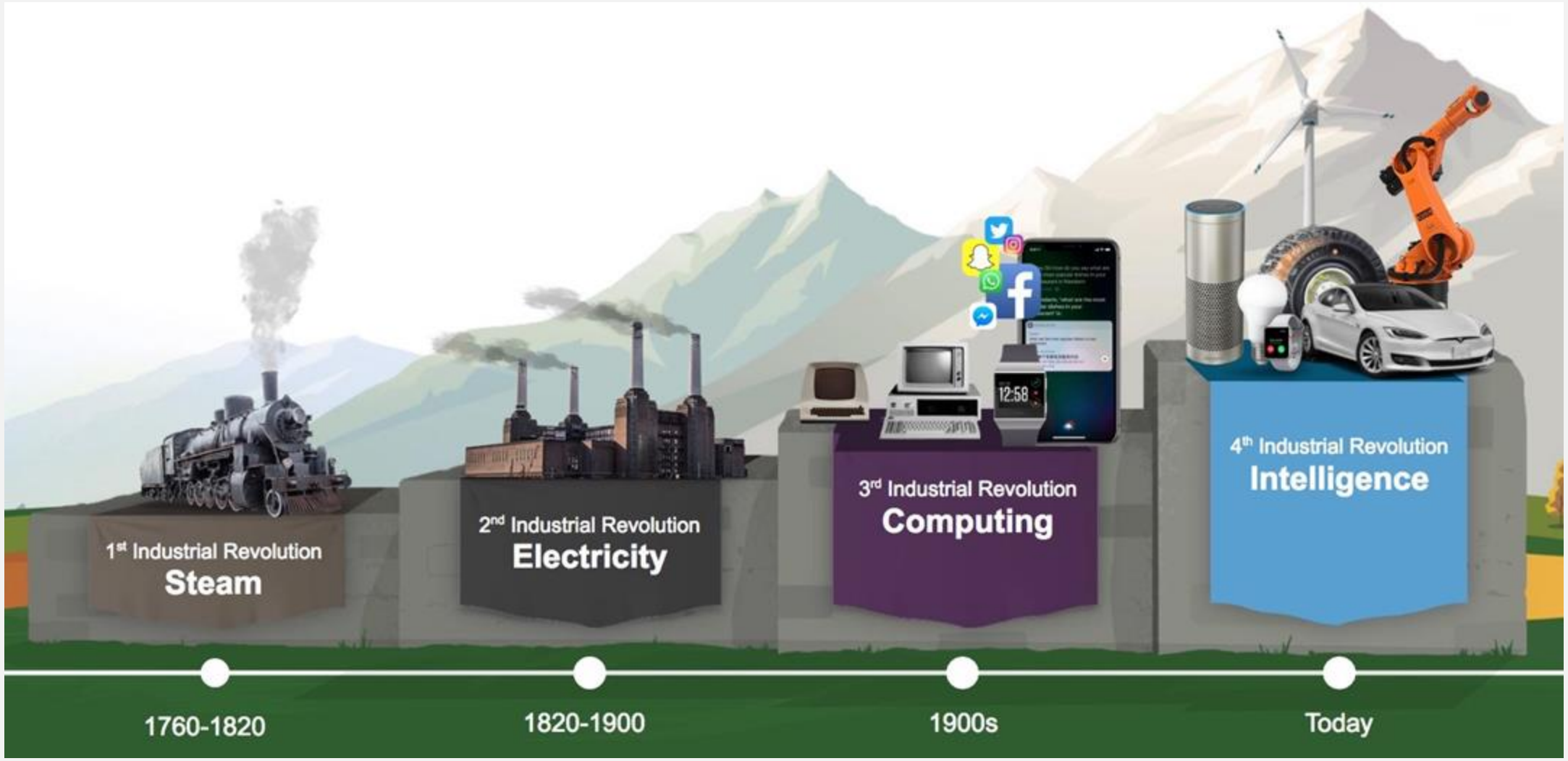
http://datascientia.disi.unitn.it/master-ai/

Past Editions





WHY AI IN EVERYDAY LIFE?



Source: https://medium.com/salesforce-ux/human-rights-in-the-fourth-industrial-revolution-industrys-role-and-responsibilities-7aa07fbe255d

PUBLIC CORPORATIONS BY MARKET CAPITALIZATION

2005				
Rank	**Name**	**Country**	**Primary industry**	**Market value (USD million)**
1	General Electric	United States	Conglomerate	382,233
2	ExxonMobil	United States	Oil and gas	380,567
3	Microsoft	United States	Software industry	262,975
4	Citigroup	United States	Banking	234,437
5	BP	United Kingdom	Oil and gas	221,365
6	Walmart	United States	Retail	212,209
7	Royal Dutch Shell	Netherlands, UK	Oil and gas	210,63
8	Johnson & Johnson	United States	Health care	199,711
9	Pfizer	United States	Health care	195,945
10	Bank of America	United States	Banking	178,765

2023 (1st quarter)				
Rank	**Name**	**Country**	**Primary industry**	**Market value (USD million)**
1	Apple	United States	Technology	2,609,000
2	Microsoft	United States	Technology	2,146,000
3	Alphabet	United States	Technology	1,332,000
4	Amazon	United States	Technology	1,058,000
5	Nvidia	United States	Technology	686,09
6	Berkshire Hathaway	United States	Conglomerate	677,77
7	Tesla	United States	Automotive	656,42
8	Meta	United States	Technology	549,48
9	TSMC	Taiwan	Manufactoring	482,41
10	Visa	United States	Card Payment	473,87

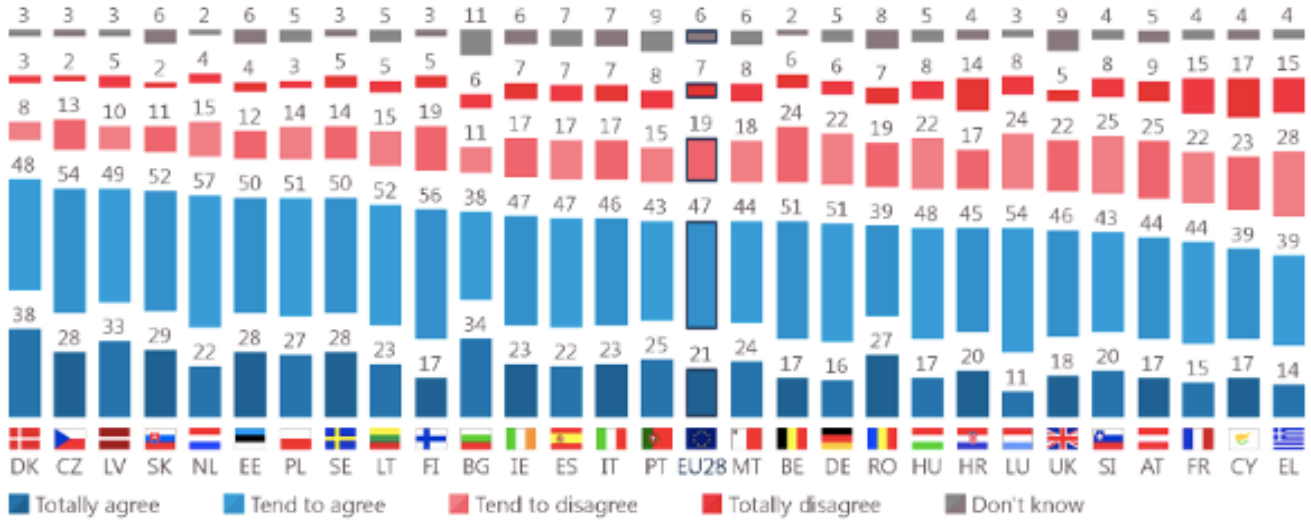
Source: https://en.wikipedia.org/wiki/List_of_public_corporations_by_market_capitalization
See also: https://www.visualcapitalist.com/the-50-most-valuable-companies-in-the-world-in-2023/

ATTITUDES TOWARDS AUTOMATION

More than half of all respondents in each Member State agree **robots and artificial intelligence are a good thing for society, because they help people do their jobs or carry out daily tasks at home**. Those in Denmark (86%), the Czech Republic and Latvia (both 82%) are the most likely to agree, while those in Greece (53%), Cyprus (56%) and France (59%) are the least likely to do so.

QD12.2 Please tell me to what extent you agree or disagree with each of the following statements.

Robots and artificial intelligence are a good thing for society, because they help people do their jobs or carry out daily tasks at home (%)

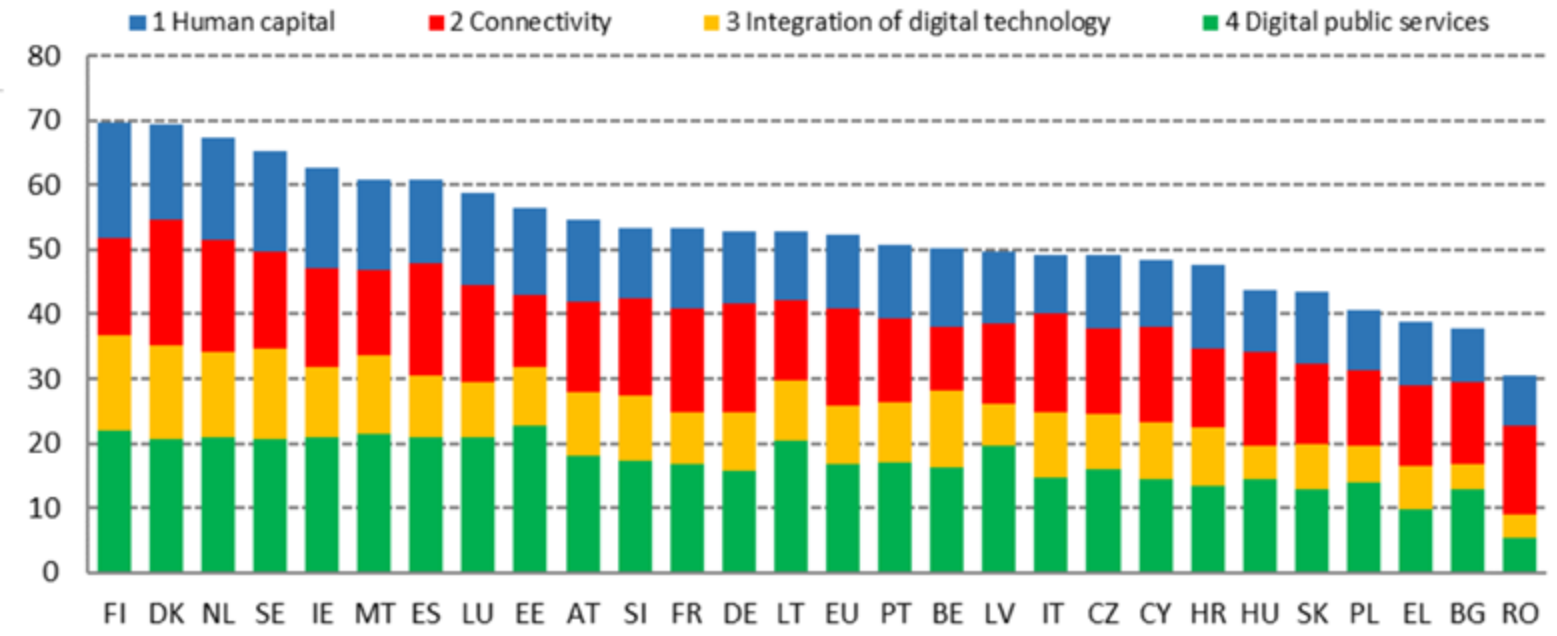


Base: All Respondents (N=27,901)

Source: Special Eurobarometer 460, *Attitudes towards the impact of digitization and automation on daily life*, p. 66

DIGITAL ECONOMY AND SOCIETY INDEX

Figure 9 Digital Economy and Society Index, 2022



Source: DESI 2022, European Commission

DESI Dimension	DESI sub-dimension
1 Human capital[16]	Internet user skills and advanced digital skills
2 Connectivity[17]	Fixed broadband take-up, fixed broadband coverage, mobile broadband and broadband prices
3 Integration of digital technology[18]	Business digitalisation and e-commerce
4 Digital public services[19]	e-Government

Source: European Commission

Source: https://digital-strategy.ec.europa.eu/en/library/digital economy-and-society-index-desi-2022

GOALS OF THE COURSE

- Learners will be able to explain what Artificial Intelligence is and what it is not and find examples of targeted AI applications that they use in their daily lives.
- They will be able to analyze an AI application, identifying its main functions, the possible sources of data that are exploited, and some positive / negative characteristics of its behaviors for end users.
- They will be able to understand and explain the ethical and social issues that can arise from the use of targeted AI applications and characterize the reliability of the system.
- They will be able to analyze, in a daily IT application, threats to the principles of ethical/trustworthy IT applications.

UNIT 2 – ANALYZING AI APPLICATIONS

Definition of AI

Which characteristics do "smart" devices / applications have in common?

What are their basic functionalities?

Analyzing a "smart" everyday application

Samsung Smart Refrigerator

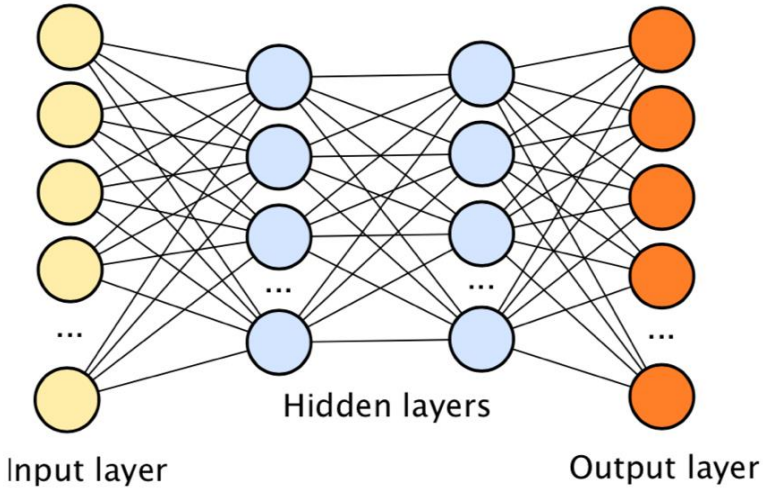
UNIT 3 – MACHINE LEARNING & BIG DATA

A brief history of Machine Learning

What is big about Big Data?

How does machine learning use (big) data?

How does all of this relate to today's AI?

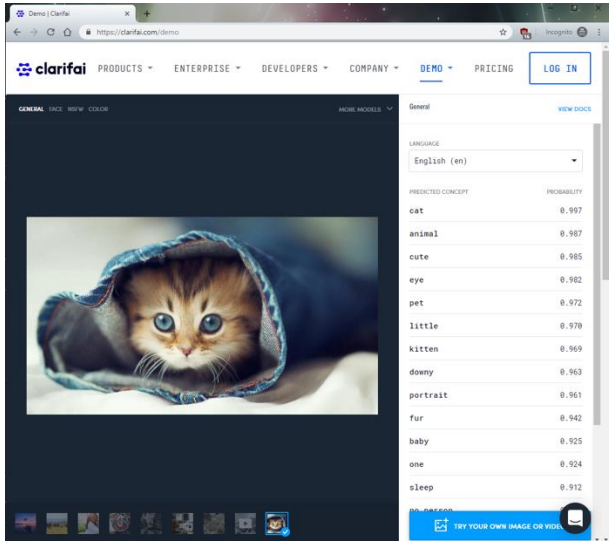


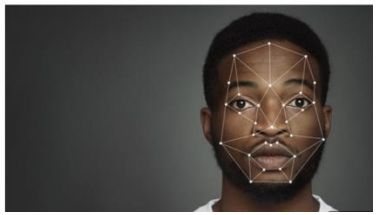
UNIT 4 – COMPUTER VISION

What are the general goals of CV? Some common tasks?

How do everyday applications use face recognition?

What are some of the benefits and some possible dangers?



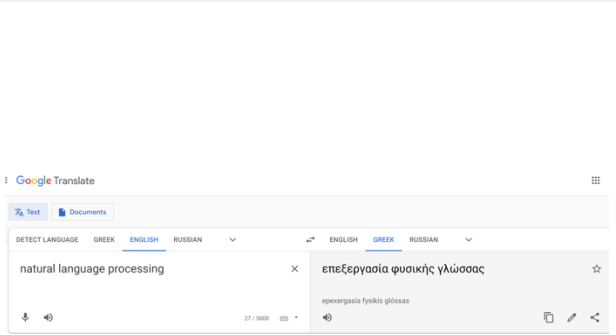


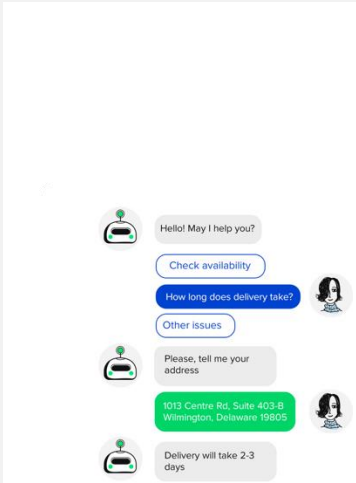
UNIT 5 – NATURAL LANGUAGE PROCESSING

What are the general goals of NLP? Some common tasks?

How do everyday applications use NLP?

What are some of the benefits and some possible dangers?



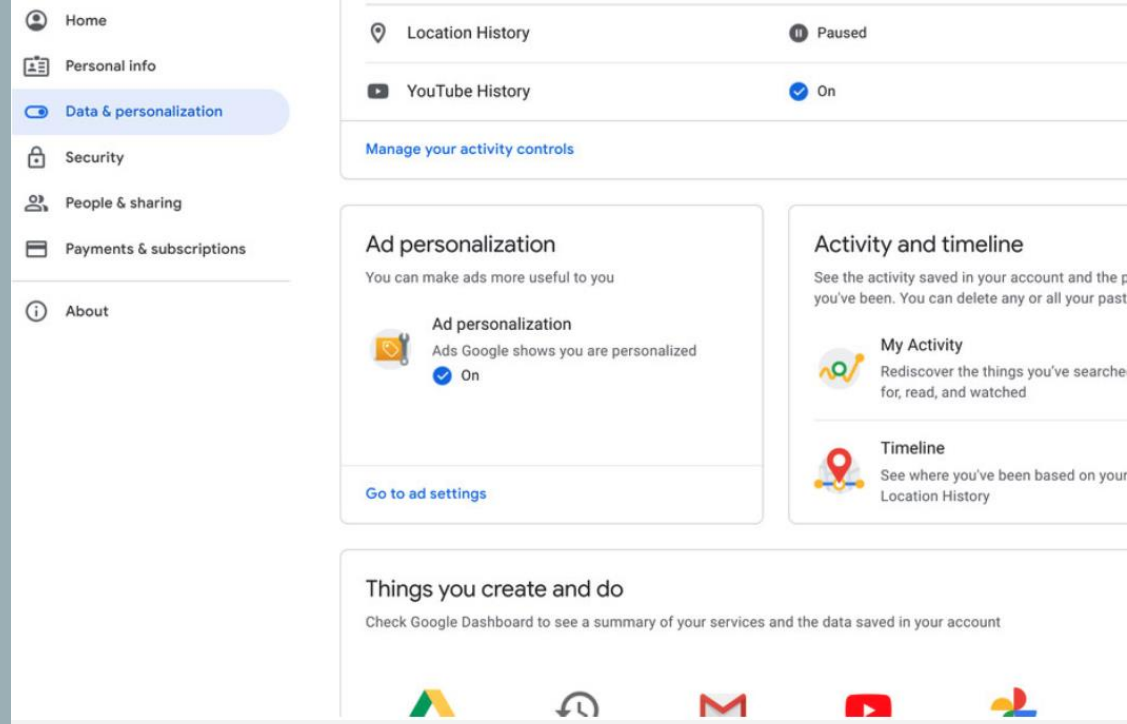


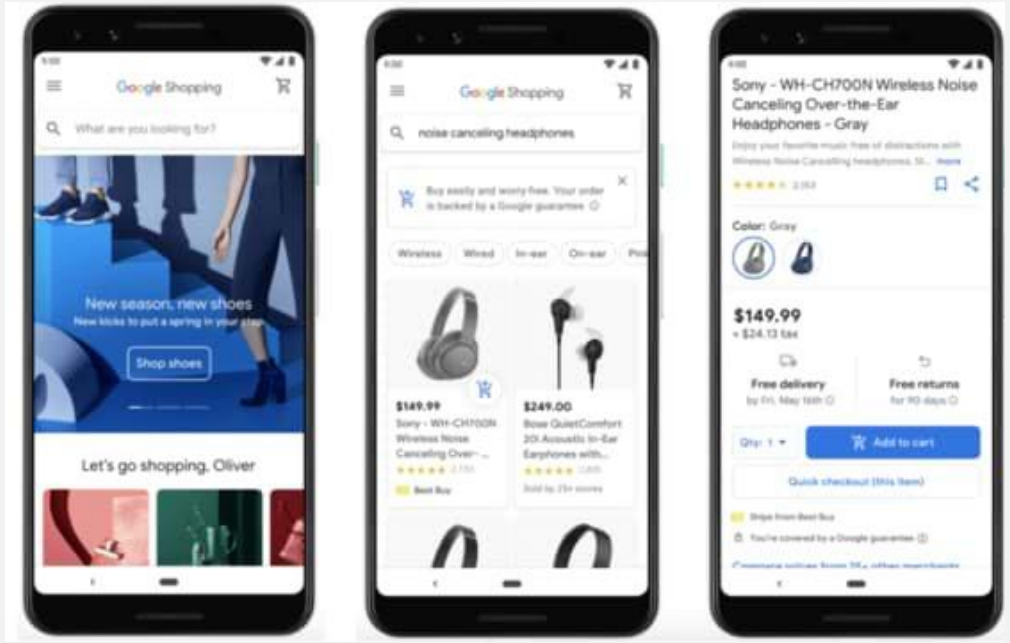
UNIT 6 – PERSONALIZATION

What is the purpose of personalization in AI?

How does it work?

What are some of the benefits and some possible dangers?



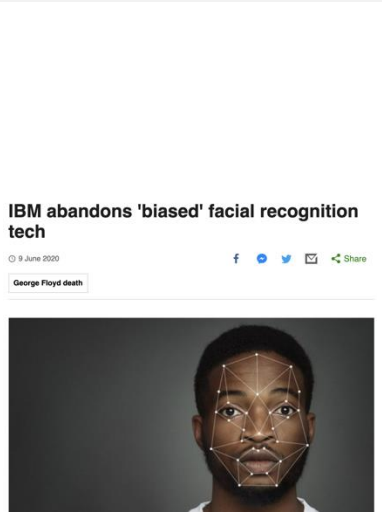


UNIT 7 – ETHICAL ISSUES

Trustworthy AI

What are some common ethical and social issues presented by AI?

Do AI applications reflect human values? Do they respect social norms?



ONLINE LEARNING

- Provides a flexible learning process… but requires organization!
- All meetings will be held online via Zoom.

STRUCTURE AND TIMETABLE

#	Topic	Quiz	Assignment
1	Introduction		
2	Analyzing AI Applications	X	
3	Machine Learning and Big Data	X	X
4	Computer Vision	X	X
5	Natural Language Processing	X	X
6	Personalization	X	X
7	Ethical Issues	X	X

LOGISTICS COURSE MATERIALS

- All materials can be found on the EAI website
- For each unit, you will find:
  - Required and optional reading
  - Video lecture
  - Self-assessment quiz
  - Assignment for the unit

LOGISTICS – EVALUATION

- The course grading is on a pass / fail basis.
- You must have at least 80% attendance across all sessions.
- All assignments must be completed.

LINKS AND CONTACTS

https://datascientiafoundation.github.io/datascientia-education-eai-2024-scicomm/

http://knowdive.disi.unitn.it/

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THANK YOU!

Any questions?