



AI IN EVERYDAY LIFE

SCICOMM

Unit I - 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

Associate Professor at the Open University of Cyprus (OUC), Coordinator of the Cyprus Center for Algorithmic Transparency (CyCAT)

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Professor of Computer Science, University of Trento, EURAI fellow, member of the Academia Europaea.

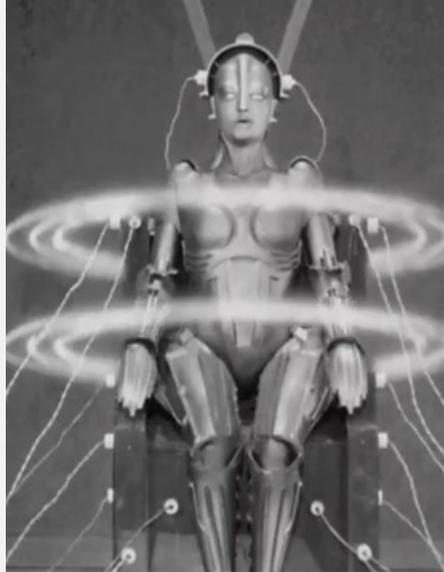
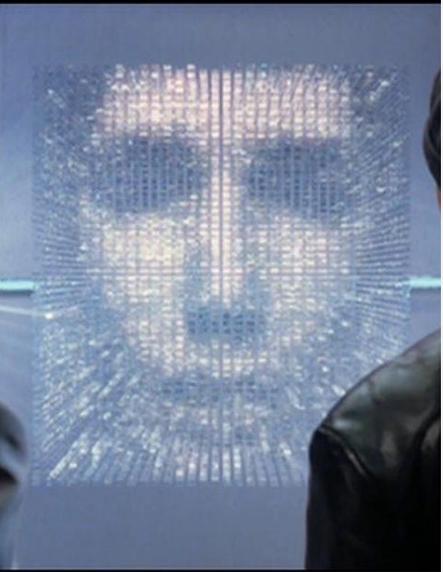
Fausto Giunchiglia



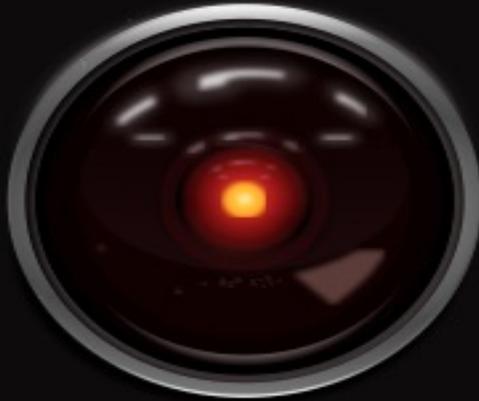
<http://datascientia.disi.unitn.it/master-ai/>

Past Editions





HAL 9000



WHY AI IN
EVERYDAY LIFE?

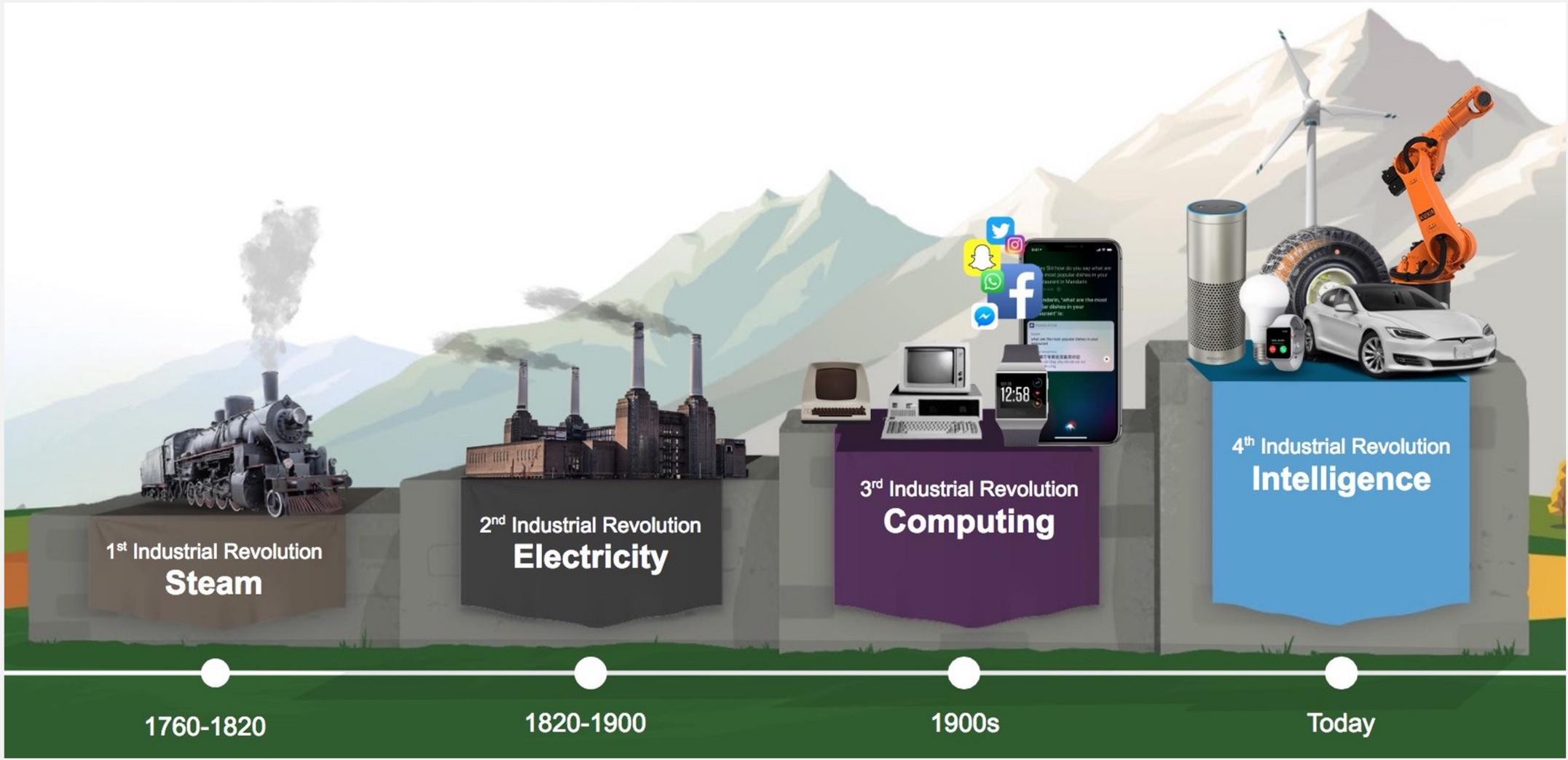


PUBLIC CORPORATIONS BY MARKET CAPITALIZATION

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	Manufacturing	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/>



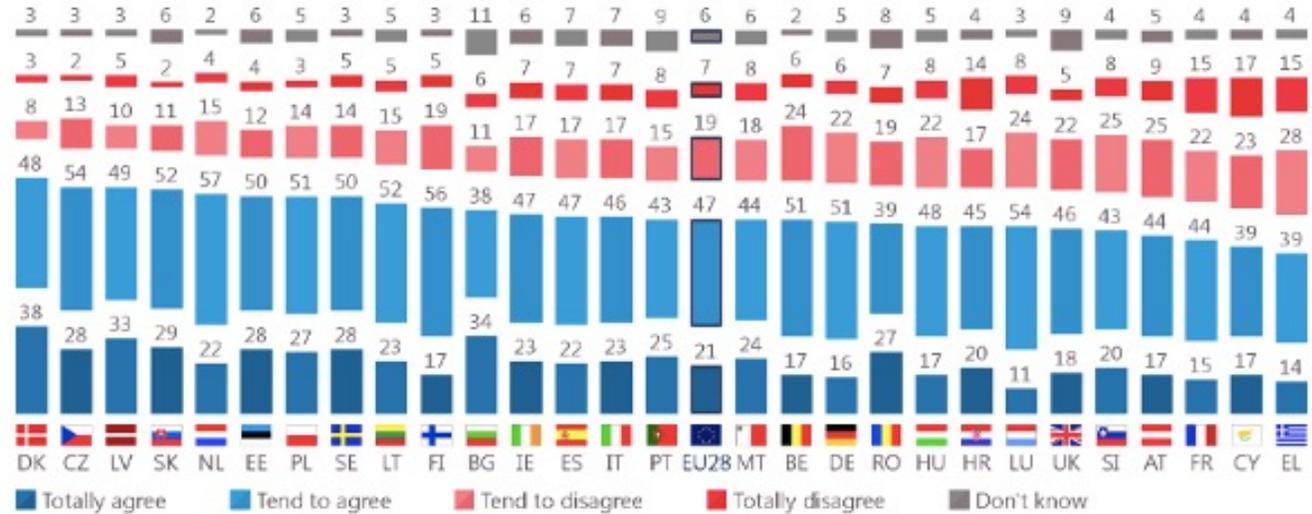
Source: <https://medium.com/salesforce-ux/human-rights-in-the-fourth-industrial-revolution-industrys-role-and-responsibilities-7aa07fbe255d>

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.

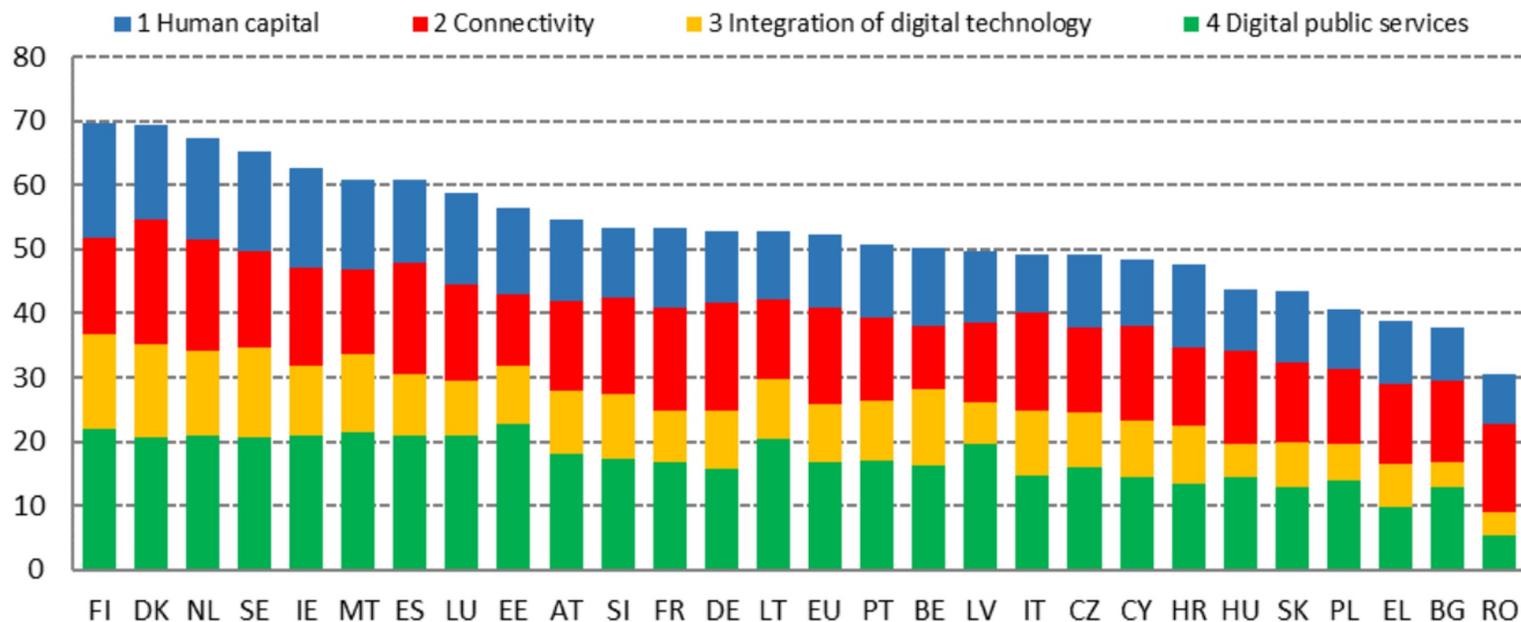
Robots and artificial intelligence are a good thing for society, because they help people do their jobs or carry out daily tasks at home (%)



Base: All Respondents (N=27,901)

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



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



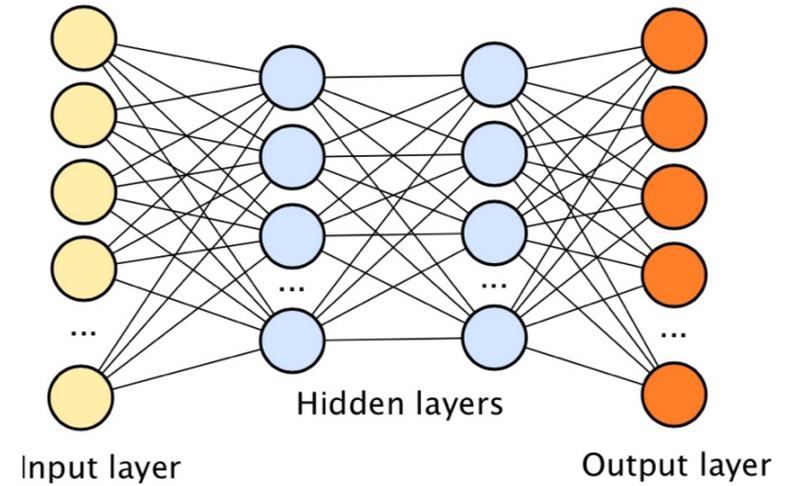
UNIT 3 – MACHINE LEARNING & BIG DATA

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?

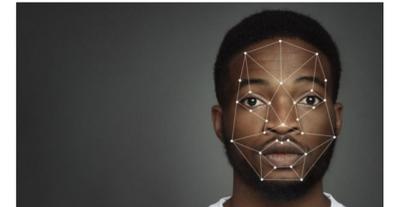
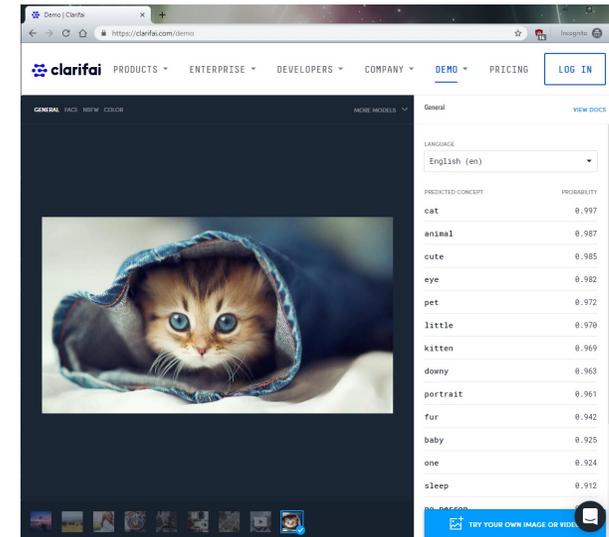


UNIT 4 – COMPUTER VISION

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?

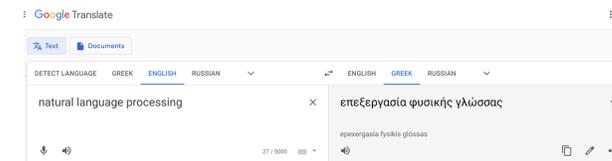
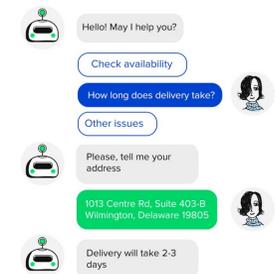


UNIT 5 – NATURAL LANGUAGE PROCESSING

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?

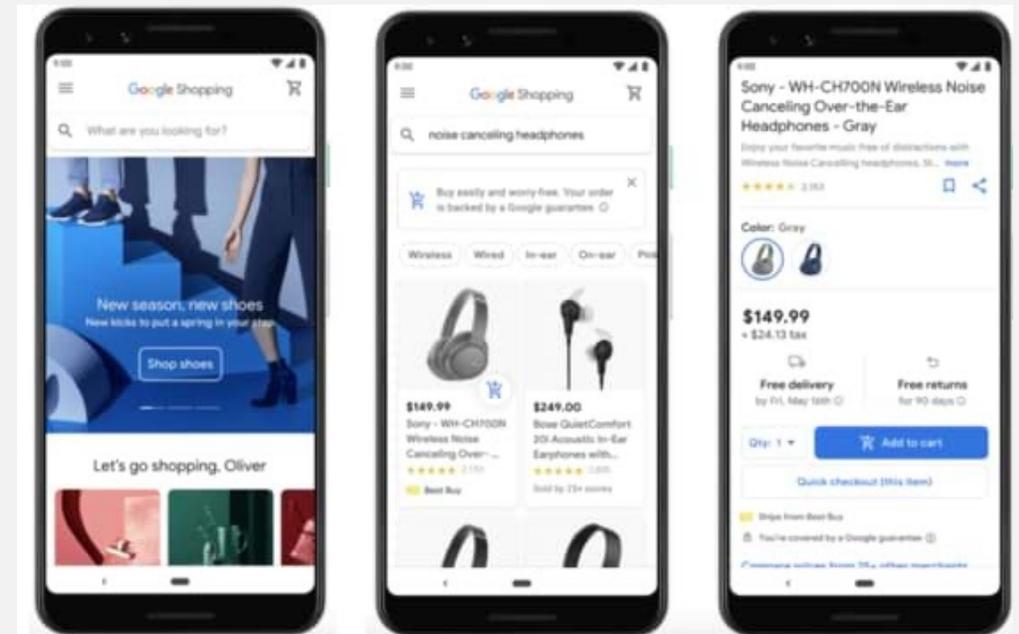
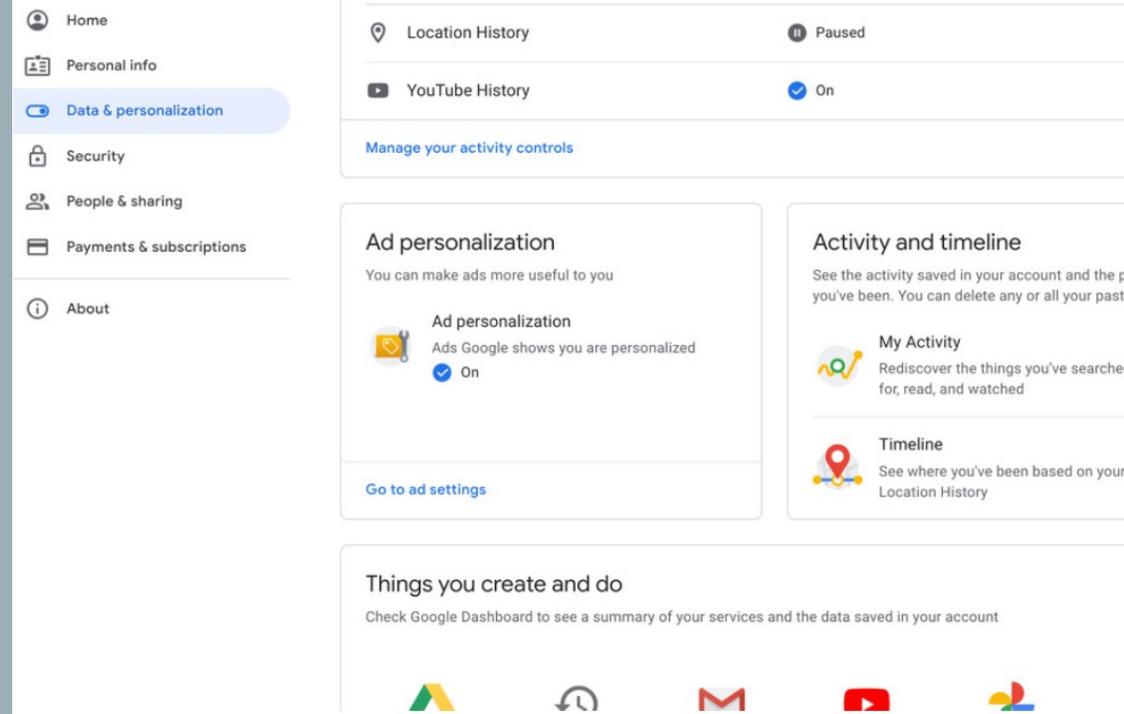


UNIT 6 – PERSONALIZATION

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?

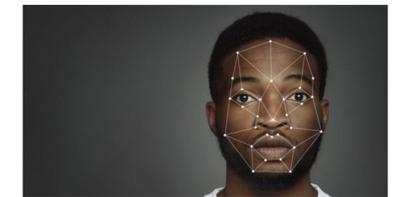
Do AI applications reflect human values?
Do they respect social norms?



IBM abandons 'biased' facial recognition tech

9 June 2020

George Floyd death





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-2023-24-unitn>



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



[@knowdive](#)



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THANK YOU!
Any questions?