



**UNIVERSITÀ
DEGLI STUDI
DI TRIESTE**



SISSA

Data Science & Artificial Intelligence

International Master Program @ University of Trieste

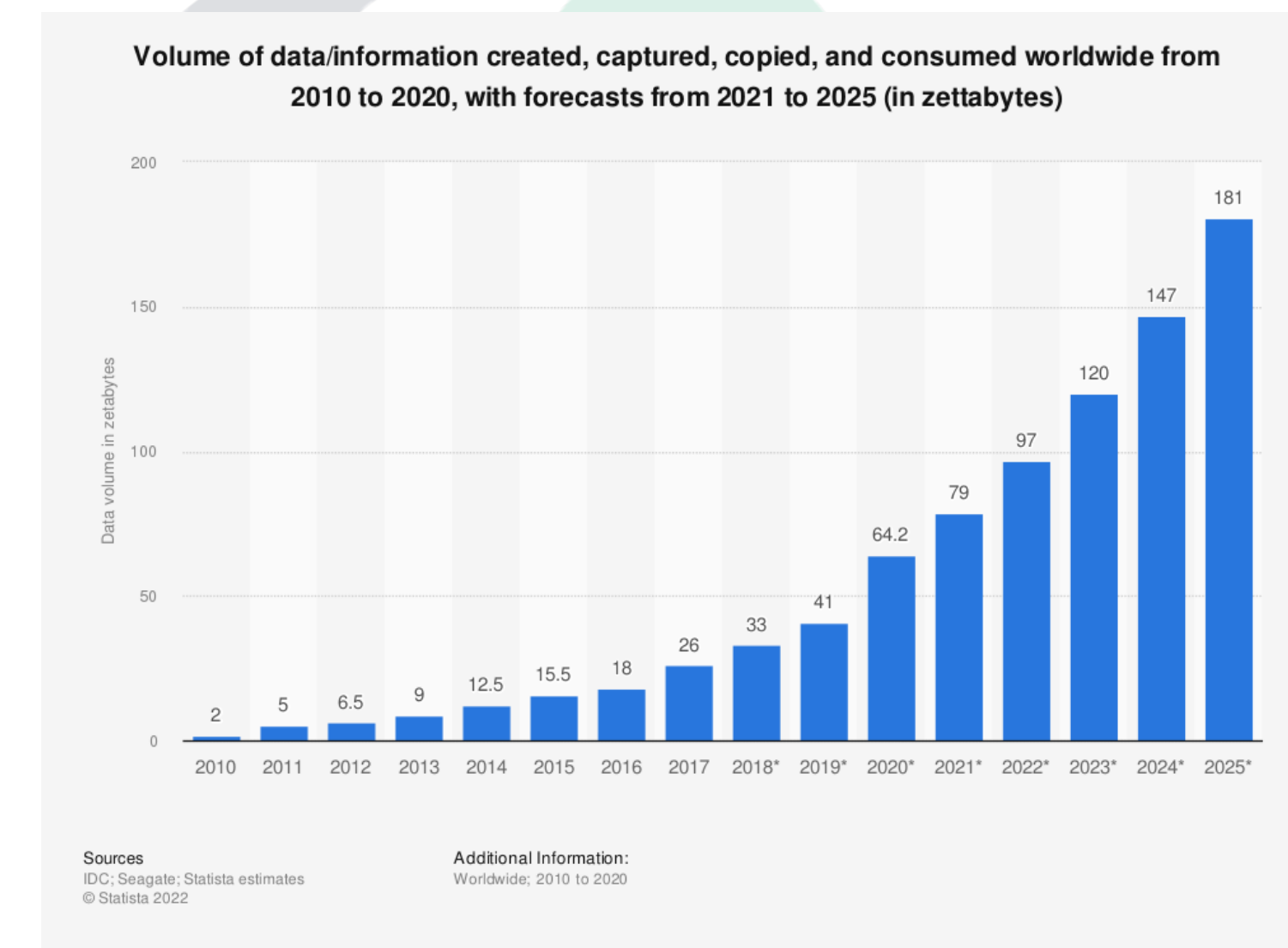
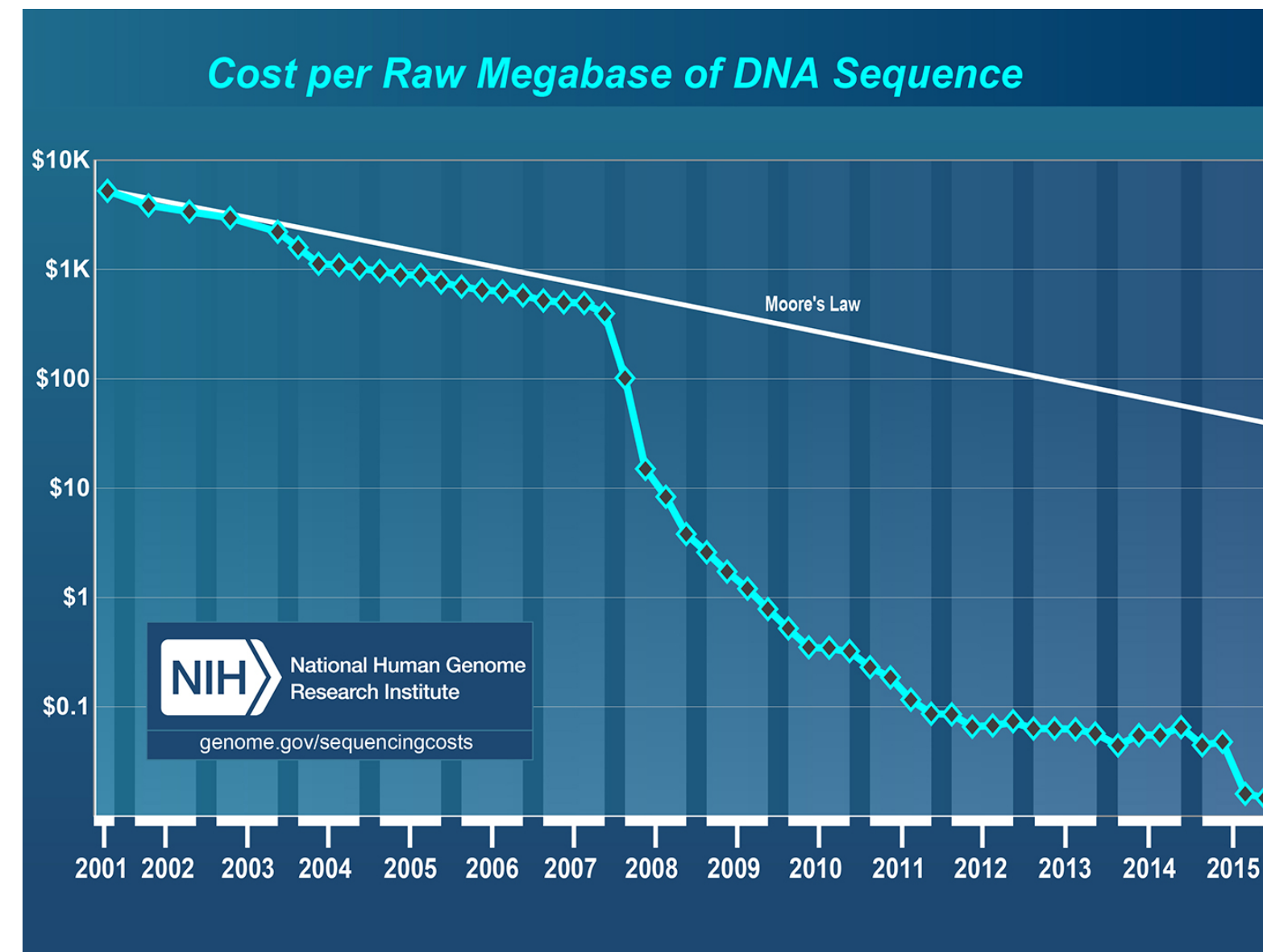
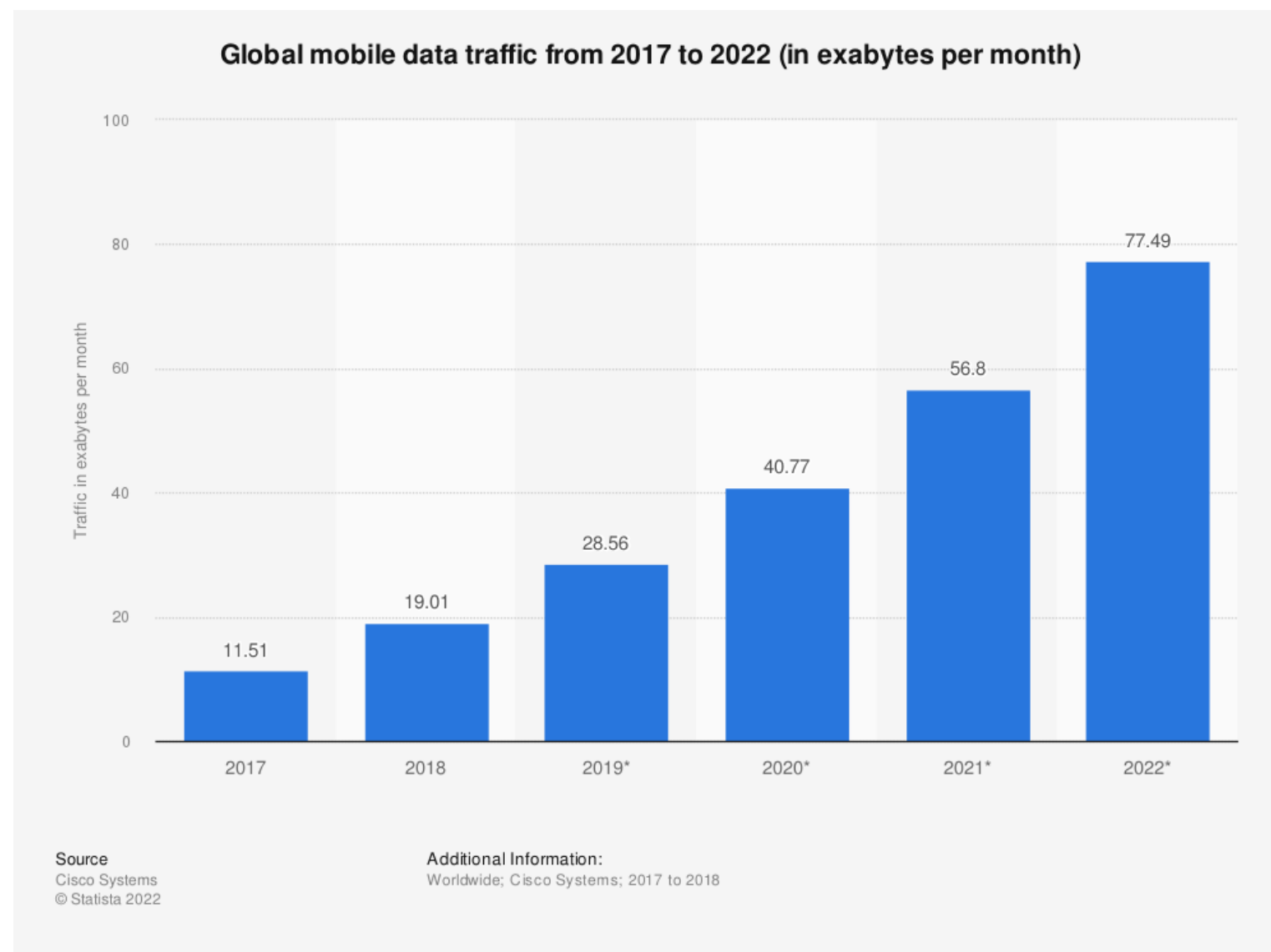


“Artificial Intelligence is the new electricity.”

–Andrew Ng



Big Data Everywhere!



Three reasons to choose DS&AI

1. The Master in Data Science and Artificial Intelligence at the University of Trieste is an innovative study program that will provide you with the necessary skills to work successfully in a wide range of sectors, including finance, healthcare, public administration, and industry.

2. The Master in Data Science and Artificial Intelligence at the University of Trieste will provide you with a solid theoretical and practical foundation for working with data and developing advanced artificial intelligence models.

3. The Master in Data Science and Artificial Intelligence at the University of Trieste will provide you with the opportunity to work with industry experts and collaborate with leading companies in the field of data science and artificial intelligence.

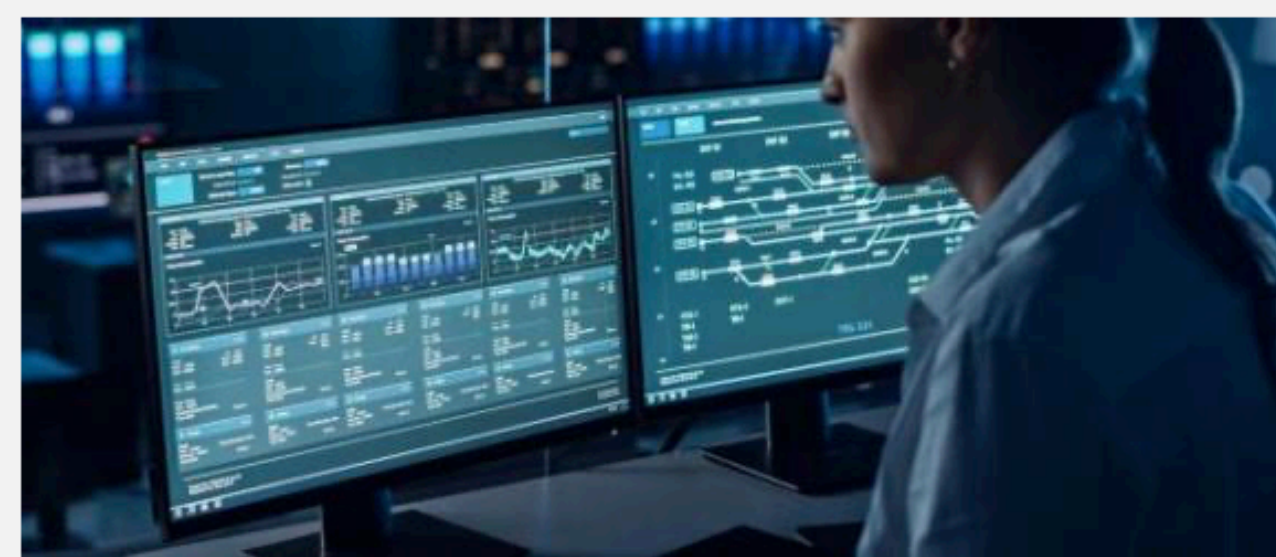


Job Opportunities



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The Best Jobs of 2021



1. Data Scientist

Median Salary: \$98,230

Projected Growth: 33.00%

Data Scientist, Decision Analytics

Home Depot, Inc.
Atlanta, GA

Data Scientist

Perspecta
Springfield, VA

Sr Principal Data Scientist

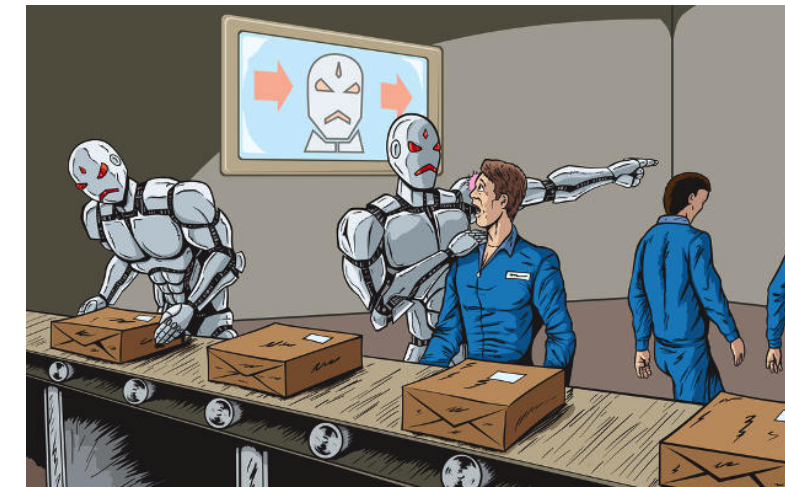
Northrop Grumman
Clearfield, UT

**Research Data Scientist
Won Lab**

Cedars-Sinai Medical C
West Hollywood, CA

[View More Jobs](#)

85% of jobs people will do in 2030 do not exist today (IFTF).



...but jobs in Data Science and AI will steadily grow... (WEF2016)

Lavori in **diminuzione:**

- Inserimento dati
- Contabili
- Operai in catena di montaggio
- Segretari
- Cassieri
- Autisti

...

Lavori in **crescita:**

- Data Analyst
- Esperti in AI e machine learning
- Esperti di big data
- Sviluppatori e analisti software
- Specialisti della trasformazione digitale
- Specialisti nelle nuove tecnologie

...

DATA

Data Scientist: The Sexiest Job of the 21st Century

by Thomas H. Davenport and D.J. Patil

Harvard Business Review

WORLD ECONOMIC FORUM

COMMITTED TO IMPROVING THE STATE OF THE WORLD

Global Challenge Insight Report

The Future of Jobs

Employment, Skills and Workforce Strategy for the Fourth Industrial Revolution



DATA SCIENCE & ARTIFICIAL INTELLIGENCE



Four Curricula

- **Foundations of Artificial Intelligence and Machine Learning**
machine learning, deep learning, reinforcement learning, explainable AI, perception
- **Data Science and AI for Industry and Cyber-Physical Systems**
methods and application to industrial automation, optimisation, cyber-physical systems
- **Data Science and AI for Health and Life Sciences**
methods and application to medicine, genomics, neuroscience, epidemiology
- **Data Science and AI for Economy and Society**
methods and applications to business, insurance, finance



Common Courses

Advanced Programming / Machine Learning Operations

High Performance and Cloud Computing

Data Management

Statistical Methods

Introduction to Machine Learning

Probabilistic and Deep Machine Learning

Ethics and Law of Data and Artificial Intelligence

Composable study plan from first semester: skip courses with known program (in green) and replace them with more advanced ones.

Two elective courses (12 ECTS)

Internship (12 ECTS)

Thesis (18 ECTS)



Foundations of AI and ML

Common courses plus:

Optimization for Artificial Intelligence

Reinforcement Learning

Algorithmic Design / Algorithmic Data Mining

Introduction to Artificial Intelligence

Symbolic and Neuro-Symbolic Artificial Intelligence

Explainable and Reliable Artificial Intelligence

Multi-Agent Systems

Simulation Intelligence and Learning for Autonomous Systems

At least one course

Unsupervised Learning

Computer Vision and Pattern Recognition

Advanced Deep Learning and Kernel Methods

Natural Language Processing

Advanced Statistical Methods

Information Retrieval and Data Visualisation

Advanced Data Management

At least one/two courses



Data Science and AI 4 Industry and CPS

Common courses plus:

Optimization for Artificial Intelligence / Mathematical Optimization

Reinforcement Learning

Modelling and Control of Cyber-Physical Systems I

Modelling and Control of Cyber-Physical Systems II

Up to two courses

Artificial Intelligence for Cyber-Physical Systems

Simulation Intelligence and Learning for Autonomous Systems

Numerical Analysis



Data Science and AI 4 Health and Life Sciences

Common courses plus:

Unsupervised Learning
Algorithmic Design / Algorithmic Data Mining
Statistical Learning in Epidemiology
Computational Genomics

Up to two courses

Stochastic Modelling and Simulation
Computational Neuroscience
Advanced Statistical Methods



Data Science and AI 4 Economy and Society

Common courses plus:

Unsupervised Learning
Advanced Statistical Methods

Up to five courses

Data Science for Insurance
Bayesian Statistics
Entrepreneurship and Business Modelling
Statistical Analysis of Social Networks
Natural Language Processing
Multi-Agent Systems
Information Retrieval and Data Visualisation



Other Info on Study Plan

- **Elective courses**

Essentially any course you seen before, plus few more (check official study plan).
There are curriculum specific automatic choices.

- **Internship and Thesis**

Internships in companies or research labs. Can be combined together for a longer activity (both in company and research lab). Together = 30 ECTS = 1 semester full time

- **Where are the lectures?**

At the university of Trieste - some 2nd yeat courses can be in partially in SISSA

Other Info

- **Requirements to Enroll**

30 ECTF in mathematics, computer science, statistics, physics, quantitative finance or genetics and molecular biology
At least 9 of those in mathematics.

- **Positions Available**

65 positions, 15 reserved for non EU students

- **Selection Procedure**

Two application phases (april-may and july-august), evaluation of CV + interview (beginning of june / september).
Applications together with Scientific and Data-Intensive Computing, you need to specify your preference.
Strict window to enrol, remaining position offered to following eligible but not admitted students.

- **Working students**

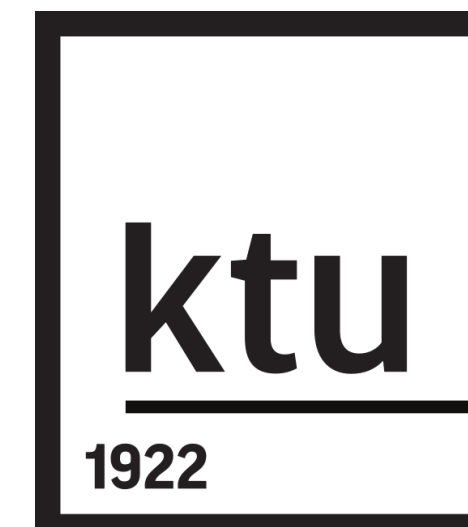
3 or 4 year part time program available. Lectures are recorded and possibly streamed, exams in presence.

Double Degree

- Double degrees connected with the European University Transform4Europe
- Limited positions for enrolled students on specific curricula
- One compulsory semester abroad (I semester II year)
- Internship+Thesis potentially abroad



Universitat d'Alacant
Universidad de Alicante



kaunas
university of
technology



UNIVERSITÄT
DES
SAARLANDES



DATA SCIENCE &
ARTIFICIAL INTELLIGENCE



AREA
SCIENCE PARK

THANK YOU!

**FIRST CALL IS OPEN
CLOSES ON MAY 18**

dsai.units.it



DATA SCIENCE &
ARTIFICIAL INTELLIGENCE

