



UNIVERSITÀ
DEGLI STUDI
DI TRIESTE



DATA SCIENCE AND SCIENTIFIC COMPUTING



DATA SCIENCE &
SCIENTIFIC COMPUTING



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DATA SCIENCE AND SCIENTIFIC COMPUTING

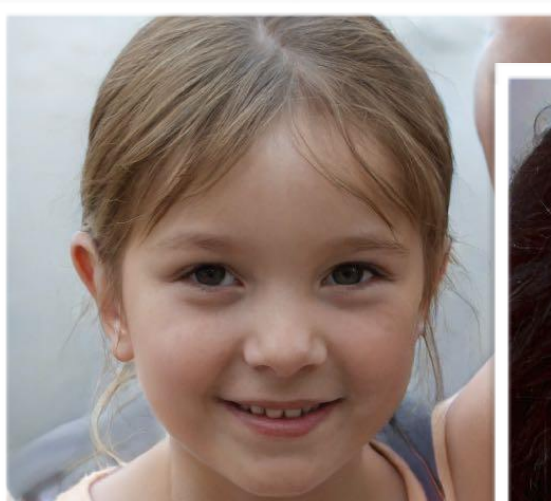
International Master Program @ University of Trieste



The Digital Era



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<https://thispersondoesnotexist.com>

The Digital Era



“Change has never happened this fast before,
and it will never be this slow again”

Graeme Wood (2009)

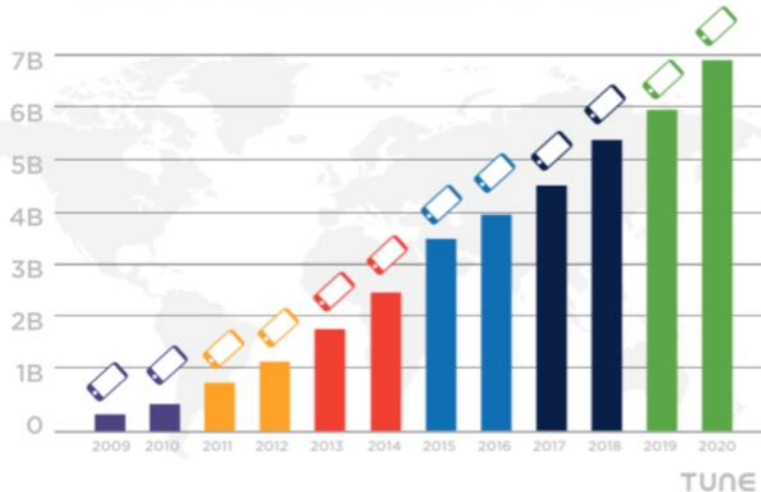
The Digital Era: Big Data everywhere!



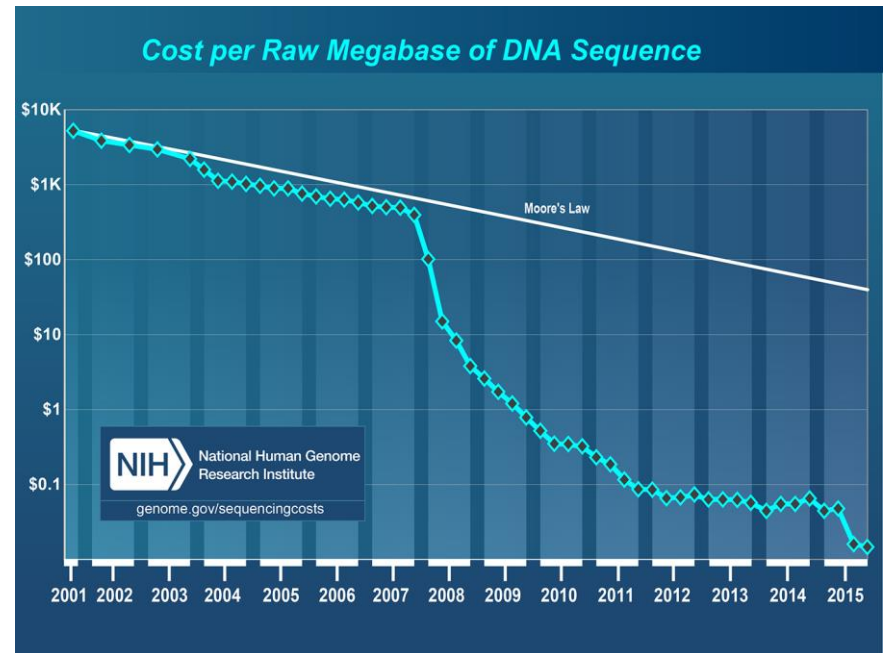
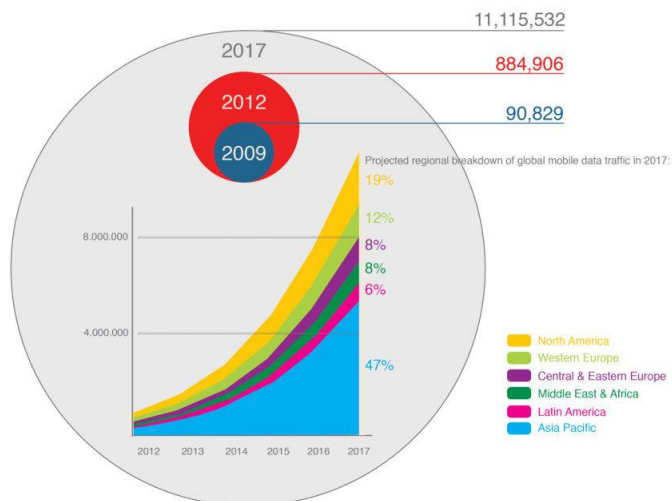
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SMARTPHONE USERS: UP 800M



Global Mobile Data - Traffic growth & forecast (terabytes per month)



In 2017, we produced more data than in all the rest of human history (the same was true for 2015-2016) [source: IBM]

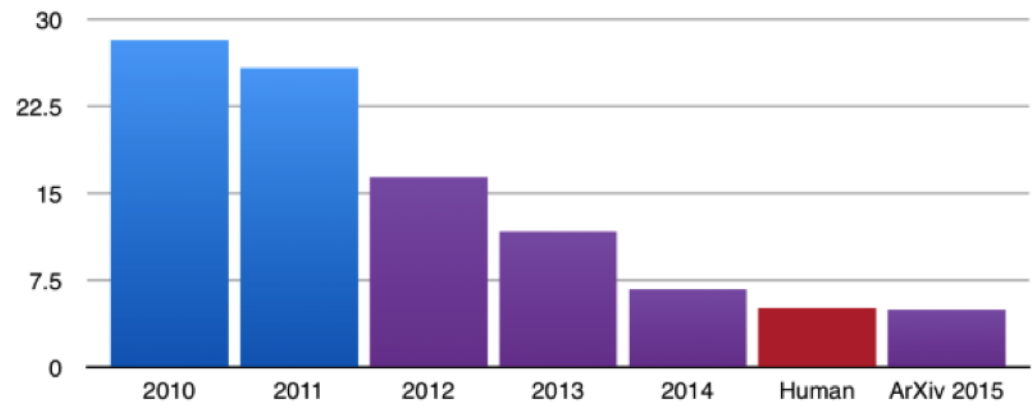
The Digital Era: Artificial Intelligence



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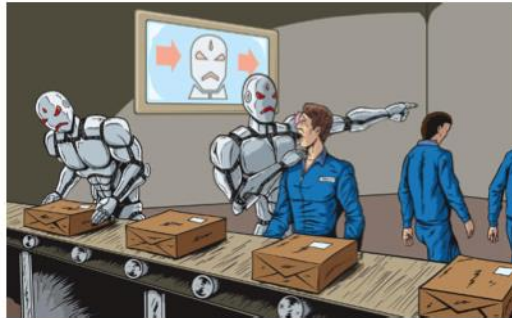
ILSVRC top-5 error on ImageNet



The Digital Era: Future of 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)

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

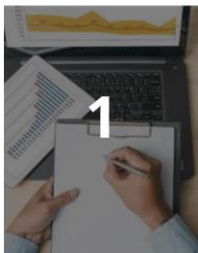
Global Challenge Insight Report

The Future of Jobs

Employment, Skills and
Workforce Strategy for the
Fourth Industrial Revolution

 **CAREERCAST**

Jobs Rated Report 2016: Ranking 200 Jobs



Data Scientist

Overall Rating: 1/199

Median Salary: \$128,240

Combines information technology, statistical analysis and other disciplines to interpret trends from data.

Work Environment

Very Good

21/199

Stress

Very Low

30/199

Projected Growth

Very Good

29/199

[View Raw Scores](#)

[Search Data Scientist Jobs](#)

50 Best Jobs in America

This report ranks jobs according to each job's Glassdoor Job Score, determined by combining three factors: number of job openings, salary, and overall job satisfaction rating.

United States

2018

0 Shares



1 Data Scientist



4.8 / 5
Job Score

\$110,000
Median Base Salary

4.2 / 5
Job Satisfaction

4,524
Job Openings

[View Jobs](#)

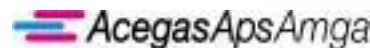
International Master Programme in Data Science and Scientific Computing



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The degree is offered by the [University of Trieste](#), in collaboration with the [University of Udine](#), [International School for Advanced Studies \(SISSA\)](#), [International Centre of Theoretical Physics \(ICTP\)](#), and with other research institutions and companies of the area of [Trieste](#) - the [European Capital of Science in 2020](#)!



International Master Programme in Data Science and Scientific Computing



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IN ENGLISH

3 CURRICULA

Artificial Intelligence and Machine Learning

Data Science and Applications

Computational Science and Engineering

Core Courses

Specialisations

Advanced Programming and Algorithmic Design, Foundations of High Performance Computing
Introduction to Machine Learning, Statistical Methods for Data Science, Numerical Analysis

Probabilistic Machine Learning
Data Management for Big Data

Deep Learning
Reinforcement Learning

Statistical Learning
for Data Science
Information Retrieval and
Data Visualization

Advanced Numerical Analysis
Optimization Models
Stochastic Modelling
and Simulation

I Sem I Year II Sem I Year

II Year

Foundations of AI and ML
Cyber-Physical Systems

Data Science for Healthcare
Data Science for Life Sciences
Data Science for Social Sciences
Data Science for Transportation
Geodata Science

Computational Fluid Dynamics
Computational Physics
Computational Chemistry
Computational Cosmology
Quantum Computing

Internship (6 cfu) - Seminars (6 cfu) - Thesis (24 cfu - experimental or in a company)

Who can Enroll?

Students with a Bachelor in Mathematics, Physics, Informatics, Statistics, Engineering, Chemistry, Life and Natural Sciences, Economics, which are skilled in maths and informatics.

Are Scholarships Available?

There are scholarship giving partial support funded by companies (about 2600 euros), granting an internship in the second year. There are also scholarships covering full support (about 800 euros per month) from SISSA and scholarships from Collegio Fonda.

Where are the lectures?

Lectures will be held in Trieste, between the University, SISSA, and ICTP.

International Master Programme in Data Science and Scientific Computing



Available places?

There are 60 places, 20 for international students and 40+ for EU students.

Selection procedure?

Selection is based on titles and on an interview, in English.
You need a B2 English certificate. If you do not have it, your English will be tested during the interview!

What if I work?

There is an option for working students, to spread the program in 3 or 4 years.
Frequency of lectures is not mandatory but recommended!



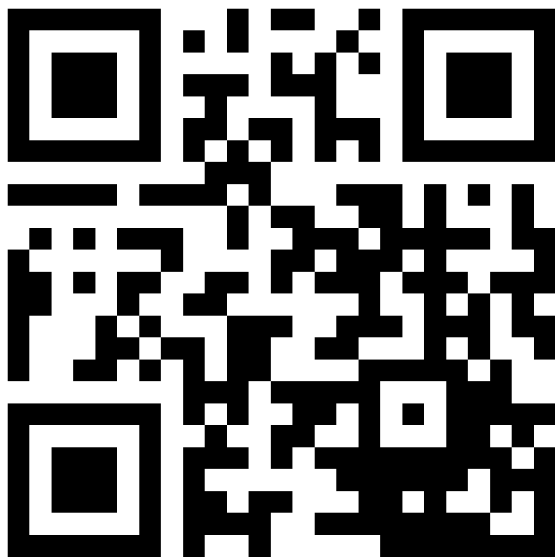
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Un mare di ragioni
per studiare a Trieste