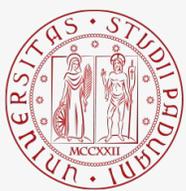
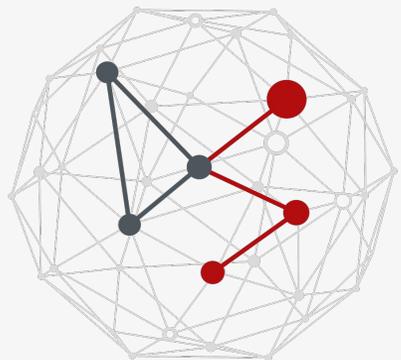


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UNIVERSITÀ
DEGLI STUDI
DI PADOVA

 **DIPARTIMENTO
MATEMATICA**



DATA SCIENCE
UNIVERSITY OF PADOVA

Welcome to Data Science Master Degree

Master of Science in Data Science

Prof. Marco Ferrante - Head of Master Degree



The Speakers

- Prof. Marco Ferrante (Head of Master Degree)
- Dr. Laura Provasi (Administrative Staff)



Presentation

Big data is one of the key terms to our contemporary world. The existence of nearly limitless amounts of data that have to be collected, managed, analysed and processed by competent professionals, bring out the need to a new figure: the data scientist. A successful **Data Scientist** today needs to receive a **multidisciplinary learning path** which combines **technical skills** (with methodologies borrowed from engineering, computer science, statistics and mathematics) with **knowledge of different sectors** in which data processing is required. She/he has to be able to processes the data and translate it into information useful for cognitive and decision-making process.



Presentation

In 2016, the University of Padua established a 2 year Master's degree in Data Science. This has been possible thanks to a fruitful collaboration between

- Departments of Mathematics
- Department of Statistics
- Department of Information Engineering
- Department of General Psychology
- Department of Biomedical Sciences

and the

- Bruno Kessler Foundation in Trento.

The Master's degree in Data Science is **highly interdisciplinary**, and is fully taught in English by internationally established researchers.



Presentation

The program intends to build **Data Scientists** whose solid technical background is complemented by a multidisciplinary preparation on various fields in which big data emerge. Highly required by Industries, Consulting Companies and Public Institutions, **Data Scientists** design and implement the analysis of big data, and provide managers and stakeholders with a clear account of their results. The Graduated in our degree will be able to master tools coming from Engineering, Computer Sciences, Statistics and Mathematics for collecting, managing and analyzing big data, and to translate their work into highly valuable informations.



Presentation

Since 2019 the Data Science Master is structured according to **4 Curricula**. Starting from the basic tools of probability theory, statistics and computer science, which are common to all the curricula in the first semester, we provide the students with all the fundamental theories and tools that are required by a **Data Scientist** today, including Machine Learning, Operational Research, Artificial Intelligence, Network Science and Big Data Computing. Besides, we offer a wide range of courses where the previous tools find a practical application, like Biological Data, Human, Cognitive and Social data, or Economic and Financial data.



Presentation

In the final, **fourth semester**, all the students have an opportunity to carry out an **internship** in a private company or in a research institution, to work on their Master thesis.



Presentation

Data Science Master Degree web page:

<https://datascience.math.unipd.it/>



Curricula

1. Mathematics of Data Science

<https://datascience.math.unipd.it/curriculum-mds.html>

2. Biological Data Analytics

<https://datascience.math.unipd.it/curriculum-bda.html>

3. Machine Learning for Intelligent Systems

<https://datascience.math.unipd.it/curriculum-mlis.html>

4. Cognitive, Social and Economic Data Analytics

<https://datascience.math.unipd.it/curriculum-cseda.html>



Research Opportunities

- Data Science Partner BMCS Phd <http://hit.psy.unipd.it/BMCS>
- Erasmus+ for Traineeship Mobility to join other Universities
- Internship at University of Padua
- Bruno Kessler research internship <https://www.fbk.eu/en/about-fbk/>



Foundations

MATHEMATICS

- STOC. METHODS
- OPTIMIZATION FOR DS

STATISTICS

- STATISTICAL LEARNING

COMPUTER SCIENCE

- FUND. OF INF. SYSTEMS
- MACHINE AND DEEP LEARNING

BIOLOGY, ECONOMICS, HUMAN & SOCIAL SCIENCES

- COGN. BEHAV. & SOCIAL DATA



Advanced Courses

MATHEMATICS

- HD PROBABILITY FOR DS
- MATHEMATICAL CELL BIO
- MATHEMATICAL MODELS AND NUM. METHODS 4 BIG DATA

STATISTICS

- STATISTICAL METHODS FOR HD DATA

COMPUTER SCIENCE

- HUMAN DATA ANALYTICS
- GAME THEORY
- NETWORK SCIENCE
- PROCESS MINING
- BIG DATA COMPUTING
- VISION AND COGNITIVE SERVICES
- KNOWLEDGE AND DATA MINING

BIOLOGY, ECONOMICS, HUMAN & SOCIAL SCIENCE

- BIOLOGICAL DATA
- OMICS IN HUMAN DISEASE
- BIOINFORMATICS
- INTRO MOL. BIOLOGY
- STRUCTURAL BIOINFORMATICS
- LAW AND DATA
- BUSINESS ECO. & FIN. DATA
- HUMAN COMPUTER INTERACTION



Internship – what is it?

- **Period of work at**
 - a company, industry, research centre, research lab.
- **When?**
 - Typically, carried out during the **second semester** of **second year**
- **For how long?**
 - **Six to eight** months
- **MS thesis?**
 - Yes, the internship and the **final MS thesis**'s work are **often combined**



Career Opportunities

Graduates master tools for collecting, managing and analysing big data, and to translate their work into highly valuable information. Graduates work as professionals in research centres, internet companies, consulting companies, startups and high tech industries and public administrations.



Career Opportunities

Internships:

<https://datascience.math.unipd.it/internships.html>



Some of our partners



MAX-PLANCK-GESELLSCHAFT



SISTEMA SANITARIO REGIONALE



Torre Archimede

Opening hours

Monday to Friday, 8:00 AM to 7:00 PM.

Holidays, closing days arranged by the University or other opening hours reductions will be reported in the news of the Department website.

<https://www.math.unipd.it/en/department/buildings-and-facilities/>

University Library System:

<http://bibliotecamatematica.cab.unipd.it/>



Address: Via Trieste, 63 – 35121 Padova, Italy



Coronavirus - updates UniPD

Protocols and guidelines:

<https://www.unipd.it/coronavirus-updates>



Address: Via Trieste, 63 – 35121 Padova, Italy



Classroom and Laboratories

<https://www.math.unipd.it/en/department/classrooms-and-laboratories/>



Moodle Math

<https://elearning.unipd.it/math/>

1. Find Data Science Master Degree
2. Enroll with your SSO
3. Find the course unit and enroll

Enroll in *Data Science Information Space*:

<https://elearning.unipd.it/math/course/view.php?id=659>



Lessons, exams, study plan

Lessons timetable

http://agendastudentiunipd.easystaff.it/index.php?view=easycourse&_lang=en

Exam calendar

http://agendastudentiunipd.easystaff.it/index.php?view=easytest&_lang=en

Study plan

from **November 10 to December 1st** - online form will be available



Questions and Answers



Contacts

E-mail

datascience@math.unipd.it

Website

<https://datascience.math.unipd.it/index.html>

