Mobile devices, sensors, web logs, instruments and transactions produce massive amounts of data by the second. As powerful new technologies emerge, Data Science allows to gain insight by analyzing this large and often heterogeneous data. The Master’s program in Data Science offers a comprehensive education from the foundations to implementation, placing students at the forefront of this exciting field.
Meet the challenges of the digital universe

Over the last years, organizations in almost every domain have radically changed their decision-making processes. They no longer seek to merely satisfy existing stakeholder needs. There is now a fierce competition on who can best tap into the vast amount of available information in order to create new opportunities and more efficient markets.

Data Science has emerged out of this paradigm shift. This new, multidisciplinary style of analysis, utilizes techniques from computer science, mathematics and statistics, while requiring astute problem understanding and good communication skills. It aims to answer questions such as, "how can the data generated be useful?" These anticipation and prediction abilities have made Data Science one of the most active fields in industry with a continuing shortage of talent.

Learn to gain insight from data

During your studies in Data Science, you will gain a comprehensive education from algorithms to database architecture, and from information theory to machine learning.

With the objective that by the end of your Master program, you will be well-versed on a variety of tools, perspectives and approaches to be able to identify the most appropriate methods and models to use to solve each specific case. You will gain the ability to use different types of data in real-time in order to make complex predictions and computations at scale.

You will also have first-hand access to cutting-edge research and to exciting industrial internship and career opportunities.

Unravelling the Mysteries of the Human Brain

A team of researchers is working to unravel the mysteries of the human brain by developing a precise understanding of how neurons connect to each other. They develop automated image understanding techniques designed to process and interpret large quantities of high-resolution imagery—potentially hexabytes of image data for each individual brain—to model the 3D structure of brain networks. This will be key to the understanding of how the brain functions.

Predictive maintenance program for a large telecommunication provider

In order to maintain a powerful infrastructure, a local large telecommunication provider is combining and analyzing various sources of data (latencies, TV network statistics, warnings from application logs and monitoring systems) to extract statistical indicators of failure. Using Machine Learning systems able to understand and model failure patterns, the company can now anticipate them a few days in advance.
The program includes a compulsory 8-week internship which can be extended to 6 months and combined with the Master’s thesis.

Students may choose a 30 ECTS minor included in the 120 ECTS. Recommended minors with this program:
- Biocomputing
- Biomedical technologies
- Computational science and engineering
- Management, technology and entrepreneurship
- Space technologies

Instead of a minor, students may opt for a Teaching specialization (30 ECTS at the Haute école pédagogique du canton de Vaud).

Career prospects

The EPFL Innovation Park, literally two steps away, is home to numerous R&D laboratories from international companies such as Cisco, Logitech, Credit Suisse or Nitto Denko. Such companies closely collaborate with the researchers from the School of Computer and Communication Sciences IC. The EPFL Innovation Park is the springboard for plenty of start-ups, most of them stemming from the IC School.

It only takes an average of 10 weeks to find one’s first job in the field of Information and Communication Technologies (ICT). Moreover, many graduates in the ICT field receive a job offer during the last semester of their training. Companies like Facebook, Google and Microsoft have even begun recruiting directly on campus.

School of Computer and Communication Sciences

go.epfl.ch/master-data-science
contact: eileen.hazboun@epfl.ch