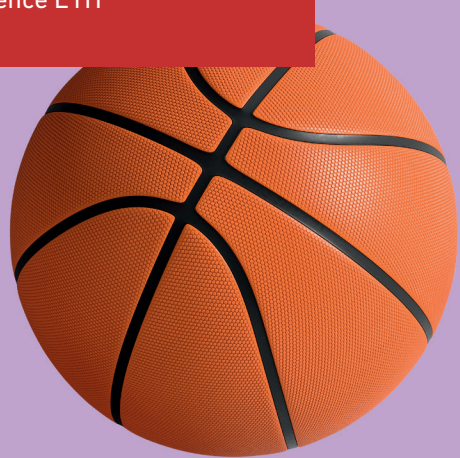
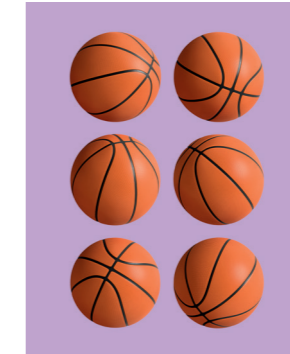




Data Science

Master of Science ETH





Data is everywhere. An unprecedented amount of data is collected every second, just because it has become possible to collect it. But what can we learn from it and how can we put it to use? What insights can we gain? And where do we even start? Data scientists possess the skills required to harness the deluge of information in any domain, to separate knowledge from noise and to extract real benefits from the sea of data that surrounds us. From understanding the global interaction of climate factors to teaching machines how to decode human conversation, data science will continue to shape the Information Age.

Contents



8



10



14

6

Future-driven: Data Science at ETH Zurich

Being part of one of the most exciting driving forces of today's Information Age.

7

Faculty voices

"The programme is exceptional because of its high level of interdisciplinarity."

8

A department of international renown

A programme offered by the Computer Science Department, in collaboration with the Department of Mathematics (D-MATH) and the Department of Information Technology and Electrical Engineering (D-ITET).

10

Master's Programme

Introduction to the structure and course categories.

14

Further Master's programmes

Three more Master's programmes cover promising fields of study.

15

Professional outlook and career opportunities

Life after graduation offers excellent prospects.

16

Quotes from students and alumni

The student body is as international and diverse as the faculty.

18

Empowering data-driven science

The Swiss Data Science Center (SDSC) creates a unique synergy between the institutions within the ETH Domain as well as academic and industrial stakeholders.



16



18



20

19

From science to business

Two examples of successful knowledge transfer to the economy.

20

ETH Zurich

Where Albert Einstein once studied and taught.

21

Campus life

Living and studying in Switzerland's largest city, located by Lake Zurich and close to the mountains.

22

Who? What? Where?

Useful information and contacts for prospective students.

Future-driven: Data Science at ETH Zurich

Studying Data Science at ETH Zurich means being part of one of the most exciting driving forces of today's Information Age, at one of the world's leading universities, in one of Europe's most enjoyable cities.

Foundation for future experts

Computers and the increasing digitalisation and inter-connection of the world have fundamentally changed the way we produce, manage, process and analyse data. In light of the exponentially growing flood of data in companies and organisations, the question of how we can use data to gain valuable insights is more important than ever. How can we extract relevant information from massive amounts of data? In what ways can computers learn from experience to make intelligent decisions? These questions are key to the specialised Master's programme in Data Science.

Data science is an interdisciplinary field. Students learn scientifically sound methods, processes, algorithms and systems to extract relevant insights, patterns and keys from both structured and unstructured data. Based on concrete questions, the aim is to create added value from data analysis, e.g. in the form of new information or a service. Curiosity and creativity help to tackle challenging problems by always looking for different approaches without prejudice and by facing new questions.

A wealth of expert knowledge

The study programme is closely connected to the world-class research groups of ETH Zurich's Department of Computer Science and benefits from tight collaboration with the Departments of Mathematics and Information Technology and Electrical Engineering. The research and teaching carried out cover the whole spectrum of data science and combine theoretical foundations with practical experience.

The programme is linked to ETH Zurich's own competence centres such as the Swiss Data Science Center (SDSC), the AI Center and the Foundations of Data Science (ETH-FDS). Each of these institutions maintain close contacts with industry and the local research centres of international companies. Thanks to all these connections and collaborations, students benefit from

an encouraging environment with plenty of opportunities to quickly participate in exciting projects. Some may even seize the chance to develop their entrepreneurial spirit by being part of one of ETH Zurich's successful spin-off companies in the data science sector.

Unique study environment

Studying at ETH Zurich is a unique experience. It is a highly stimulating place with a friendly, cooperative and respectful atmosphere, bringing together students from all over the world. Two campus locations, both distinguished by their prominent position and with modern infrastructure, are the perfect place for learning, conducting research and leisure.

Professional administration teams help students get started, provide individual student counselling and give out academic advice. Committed student associations and commissions offer support during studies and exam periods, help people connect, and contribute to a diverse and inspiring culture.

Excellent job market

The job market and career opportunities for data science graduates are excellent. Whether graduates choose to be an employee in a company or an external consultant, data scientists are in high demand. Characterised by a hypothesis-driven and experimental way of working and an outside-the-box view of issues, they help ask the right questions, translate requirements into abstract data-based questions and develop solutions. ■

Joachim M. Buhmann Professor of Computer Science

"Data science and computer science are radically transforming our society and expanding our ability to grasp the complexity of reality in unprecedented ways. The ETH Master's programme in data science offers fundamental insights into these methodological advances in science and technology and, by extension, enables a new generation of students to discover, invent and construct the digital solutions of the future. A balanced combination of foundational knowledge accompanied by practical data science projects in science, engineering and life science applications provides a unique learning experience."



Helmut Bölskei Professor of Mathematical Information Science

"The programme is exceptional because of its high level of interdisciplinarity: in addition to providing sound foundations in mathematics, it also offers elements from computer science, statistics, electrical engineering, hardware, and software. And all this comes with a strong practical component. Overall, the programme offers a flexible and comprehensive education for a wide range of profiles."

Patrick Cheridito Professor of Mathematics

"The ETH data science Master's programme offers a unique blend of theoretical courses in data analysis, statistics and learning theory, various interdisciplinary electives and a data science lab where students can gain hands-on experience with real data. As such, it provides excellent preparation for an academic career or a job in industry. As a result, it is not surprising that it attracts some of the best students from all over the world."



A department of international renown

Founded in 1981, the Department of Computer Science (D-INFK) today holds a leading position worldwide. The specialist ETH Master's programme in data science is offered in collaboration with the Department of Mathematics (D-MATH) and the Department of Information Technology and Electrical Engineering (D-ITET).



Pioneering mission

It is no exaggeration to say that, since its establishment, the Department of Computer Science at ETH Zurich has made an impact that has been felt far beyond the perimeter of the Zurich campus. Dedicated to undertaking fundamental research, the department develops reliable, efficient and secure computer and IT solutions for use in society, industry and academia. Moreover, while its main focus is on training computer scientists at the highest level, the department also teaches the fundamentals of computer science to students of other disciplines, offers continuing education programmes and contributes to the high quality of general computer science education in local schools. As a result, it makes an important contribution to the excellence of education in society as a whole. While maintaining longstanding, traditional ties with electrical engineering and mathematics, researchers in the department increasingly interact with other disciplines, including physics, mechanical engineering and the life sciences. In addition, the department collaborates with numerous centres and labs when working on particular issues, as part of joint research programmes or during outreach activities, with the latest examples including the ETH AI Center, ETH Foundations of Data Science (ETH-FDS), and the Cyber Defence Campus.

A faculty of global standing

More than 45 professors from all over the world conduct their research and teach at the Department of Computer Science at ETH Zurich. They are among the best in their field and span the many facets of modern computer science, from its underlying theory to the design and construction of practical systems. Boasting a consistently high international ranking, the department is widely considered to be one of the best places in the world in which to study and undertake research in computer science. Around 350 doctoral students and 110 post-doctoral and senior researchers contribute to maintaining the department's high level of teaching and research, with around 1,400 Bachelor's and 1,000 Master's students currently benefiting from this excellent academic environment.



Strong research and business network

The department maintains strong ties with a wide network of top universities around the globe. Close cooperation with scientists abroad is an integral part of its research culture, offering exciting prospects for students, in turn: they are able to enjoy lectures from international experts and experience collaborative learning with students from the best universities outside Switzerland. The department also participates in intensive research collaborations with global IT players and research centres, such as DisneyResearch|Studios, Microsoft, IBM, SAP and Google, and with financial service companies such as ZKB and SIX. The findings from this research flow directly into teaching.

Outstanding infrastructure

ETH Zurich offers state-of-the-art learning facilities, modern infrastructure and highly qualified employees. One of its key strengths is the technology platforms that make specialist tools accessible. For instance, in the department's Computer Graphics Laboratory, students can work with novel three-dimensional scanning technology developed at ETH Zurich. Students working on simulations and big data have access to its high-performance computing clusters, and for large-scale projects, it is even possible to access the Swiss National Supercomputing Centre.

www.inf.ethz.ch

Department of Mathematics (D-MATH)

The Department of Mathematics is an internationally recognised point of reference for mathematical research and teaching at the highest level. It offers a broad spectrum of pure and applied mathematics and comprises around 20 independent professorships, as well as the Seminar for Applied Mathematics (SAM), the Seminar for Statistics (SfS) and the Institute for Operations Research (IFOR).

www.math.ethz.ch

Department of Information Technology and Electrical Engineering (D-ITET)

The Department of Information Technology and Electrical Engineering (D-ITET) comprises 19 research laboratories (institutes) with activities ranging from integrated circuits to computer networks, from wireless communications to signal processing, and from control theory to power electronics. In addition, it has strong research units in biomedical engineering and in neural information processing.

www.ee.ethz.ch



A wide-ranging programme for a deep dive into data science

Data science will shape our future dramatically. With the aim of understanding and applying the full potential of this discipline, the Master's in data science programme offers a versatile and in-depth education in data science, accomplished by insights into political, societal, legal, ethical and privacy-related aspects.

Who can apply?

Applicants must hold a Bachelor's degree in computer science, mathematics or electrical engineering or must have graduated with distinction from a related field, such as mechanical engineering or physics. A strong background in mathematics, programming, and algorithms is required. Admissions decisions are based on the curriculum of the applicant's Bachelor's programme, the level of mastery reached in each subject, their personal statement, the reference letters submitted and the reputation of the university they have graduated from, among other elements. For further details, candidates should refer to the admissions website.

Curriculum structure

Duration: 4 semesters
 ECTS credits: 120
 Language: English
 Degree: Master of Science ETH in Data Science

This specialised two-year Master's programme equips students with in-depth knowledge and skills, while combining theoretical foundations with practical experience. A central part of the programme is the Data Science Laboratory, where students tackle specific and practical problems relating to interdisciplinary applications. They engage in every kind of task, from process modelling to the implementation and validation of data science techniques. Students learn how to understand and use complex data management (storage, querying, infrastructures, networks, etc.) and analysis techniques (machine learning, statistics, etc.) so they can utilise them in a broad range of applications.

Hosted by the Department of Computer Science, the programme benefits from close collaboration with the Departments of Mathematics and Electrical Engineering and Information Technology.

The programme is divided into several course categories. The minimum numbers of credits required for completing the degree are listed under the course categories. Several course categories are nested to provide more flexibility, since the minimum number of credits required within subordinate course categories does not add up to the lowest number of credits for the overarching course category. The remaining credits can be distributed across the course categories Core Courses and Electives.

ETH Zurich Master's in Data Science	120
Core Courses	32
Data Analysis	16
Data Management and Processing	16
Electives	28
Subject-specific Electives	20
Data Management and Processing	8
Additional Electives	0
Data Science Lab	10
Seminar	2
Science in Perspective	2
Master's Thesis	30

Course categories

The courses listed below constitute a snapshot of what is currently on offer. However, they are subject to change. Up-to-date course offerings can be viewed online in the ETH Zurich course catalogue (www.vvz.ethz.ch). For further details, please also refer to the study guide (www.inf.ethz.ch/master-ds).

Core courses

Core courses ensure a high level of competence in data science. They are split into two sub-categories:

Data Analysis

These courses provide students with core knowledge relating to the analysis of complex data sets so that they can fully master concepts and tools from statistics and information theory, in particular.

- Advanced Machine Learning
- Advanced Algorithms
- Probabilistic Artificial Intelligence
- Mathematics of Data Science
- Mathematics of Information
- Computational Statistics

Data Management and Processing

The focus is on imparting core knowledge relating to the storage, querying, processing and management of data, so that they can fully master the infrastructure on top of which the analysis of large data sets is performed.

- Big Data
- Data Management Systems
- Optimisation for Data Science
- Algorithmic Foundations of Data Science

Subject-specific Electives

Core Elective courses offer a rich, broad-based selection of data science courses across the three host departments, and complete the main two categories described above.

- Research in Data Science
- Randomized Algorithms and Probabilistic Methods
- Natural Language Understanding
- Reliable and Interpretable Artificial Intelligence
- Deep Learning
- Artificial Intelligence in Education
- Computer Vision
- Statistical Learning Theory
- Machine Perception
- Cloud Computing Architecture
- Introduction to Topological Data Analysis
- Computational Semantics for Natural Learning Processing
- AI Center Projects in Machine Learning Research
- Guarantees for Machine Learning
- Computational Intelligence Lab
- Machine Learning on Microcontrollers
- Information Theory I
- System Identification
- Systems-on-chip for Data Analytics and Machine Learning
- Advanced Signal Analysis, Modeling, and Learning
- Learning, Classification, and Compression
- Deep Learning for Autonomous Driving
- Applied Analysis of Variance and Experimental Design
- Probabilistic Method in Combinatorics
- Probability Theory
- Stochastic Simulation
- Statistical Modelling
- Time Series analysis
- Applied Stochastic Processes
- Fundamentals of Mathematical Statistics
- Estimation and Testing under Sparsity
- Causality
- Deep Learning in Scientific Computing
- Multivariate Statistics
- Dynamic Programming and Optimal Control
- Recursive Estimation



Professor Andreas Krause leads the Learning and Adaptive Systems Group and is part of the core faculty.

The student body at ETH Zurich is as international and diverse as the faculty.



Interdisciplinary Electives

A wide selection of Interdisciplinary Electives enables students to gain insight into an area where data science is applied, such as weather and climate, geographic information systems, finance and insurance, transportation systems, social networks, and bio-informatics. They obtain background knowledge and skills that are important for the area in question so they can bridge the gap between different academic cultures.

Additional Electives

The Additional Electives is a free category that provides students with the possibility to complete their Data Science education with any courses they wish within:

- All Master's level courses offered by D-INFK, D-ITET and D-MATH
- All courses listed as Interdisciplinary Electives (in any category)

Data Science Lab

The Lab provides students with the opportunity to apply the knowledge and skills they have acquired in an interdisciplinary data science project, allowing them to gain hands-on experience with real data. The project is conducted in small groups and, at the end of the project, students submit a report and a presentation.

Seminars

Seminars serve to train students in how to read and understand scientific publications. They usually build on lectures that have previously been attended and promote active discussion among participants. Seminars often cover recent developments in a particular subject and provide an interesting way to learn about cutting-edge research:

- Advanced topics in machine learning
- Hardware acceleration for data processing
- Foundations of data science seminar
- Student seminar in statistics: inference in some non-standard regression problems
- Computational challenges in medical genomics
- Advanced topics in machine learning and data science
- Student seminar in statistics: statistical network modelling

Science in perspective

Science in perspective is an integral part of the curriculum. Students learn to understand and critically question the correlations between scientific knowledge, technological innovations, cultural contexts, individuals and society. Students are free to choose two credits from the Department of Humanities, Social and Political Sciences (D-GESS).

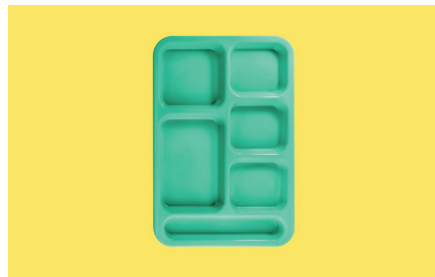
Master's thesis

The Master's thesis demonstrates that students are able to use the knowledge and skills they have acquired during their Master's studies to solve a complex data science problem. ■

Further Master's Programmes

As an alternative to the Data Science Master's programme described in this brochure, Bachelor's graduates can choose from three other Master's programmes offered by the Department of Computer Science in cooperation with other departments.

Consecutive:



Master of Science ETH in Computer Science

The general Master's in Computer Science is a broad programme with five different majors. Its structure allows students to choose from a variety of courses and to tailor the curriculum to meet their particular interests, needs and goals. The objective is to help students to receive an in-depth education in their field of choice while also becoming creative and efficient problem-solvers in the general domain of computer science. The Master's programme in computer science is offered by the Department of Computer Science (D-INFK) at ETH Zurich.

www.inf.ethz.ch/master-cs

Master of Science ETH in Cyber Security

Today's global society and economy increasingly depend on the smooth processing of digital information. In turn, the need to protect data against misuse is also growing. Security technologies help to improve existing systems, make them more secure and protect them from hackers or criminal organisations. At the same time, they enable new applications and help to reshape society by challenging and redefining existing norms and assumptions when it comes to trust. In the cyber security Master's programme offered by ETH Zurich and EPF Lausanne as a joint degree, students are trained to solve important security problems in computer systems, networks and applications. They are able to choose their specific path from a wide range of courses and, after successfully completing their studies, use their knowledge to help develop secure information infrastructures that serve important needs both today and in the future.

www.inf.ethz.ch/master-cybsec



With admission:



Master of Science ETH in Robotics, Systems and Control

The development of intelligent robots and systems requires knowledge in diverse areas of expertise. It raises fundamental questions on how best to design, model and control complex and highly interactive systems. Bridging the gap between various engineering disciplines, this programme offers students a unique learning environment and a multidisciplinary education that will enable them to develop innovative and intelligent products and systems to meet today's most pressing challenges: energy supply, the environment, health care and mobility. This specialised programme is offered jointly by the Departments of Mechanical and Process Engineering (D-MAVT), Information Technology and Electrical Engineering (D-ITET), and Computer Science (D-INFK) at ETH Zurich.

www.master-robotics.ethz.ch

Professional outlook and career opportunities

ETH graduates enjoy an excellent reputation both in Switzerland and worldwide. After completing their studies, data science graduates are sought-after experts with exciting opportunities in industry or academic research around the world.

Excellent prospects

In 2012, the Harvard Business Review magazine published an article entitled "Data Scientist: The Sexiest Job of the 21st Century". The article describes the profile of a professional data scientist as follows: "A hybrid of data hacker, analyst, communicator, and trusted adviser". This description, as well as the statement that this combination of characteristics is extremely effective but unfortunately also rare, remains true today.

Data scientists are sought-after specialists in almost all industries. They help companies prepare for important business decisions, such as creating competitive advantages, making reliable forecasts about future events or also controlling, optimising and automating processes. Exciting positions can be found not only at large tech companies, but also in the medical, pharmaceutical, financial, insurance and environmental industries. With some professional experience, there are exciting opportunities for career advancement, up to the level of Lead Data Scientist. These positions often come with management responsibility and involvement in strategic projects.

Entrepreneurial potential

ETH Zurich and its associated organisations offer students a wide range of courses and programmes during their degree to help them acquire the knowledge and contacts necessary for self-employment. Recognised ETH Zurich spin-offs will receive support from ETH transfer, including consulting and advice services, infrastructure during the first two years and helpful contacts. Over the years, numerous former ETH computer and data scientists have established start-ups and ETH spin-offs in the field of data science and AI, such as Teralytics, Carbon Delta (acquired by MSCI), SpinningBytes, Veezoo, Duolingo, Hades and SkillLab.

A scientific career

Master's graduates who have discovered their passion for science during their studies can apply for a doctoral programme, either with one of the internationally renowned research groups of the Department of Computer Science or at another prestigious university. ■

Data science touches almost all areas of life. The medical and pharmaceutical industries, for instance, use data science to optimise the quality and processes of products and services.



What students and alumni say

The student body is as international and diverse as the faculty, guaranteeing a stimulating study experience. Data science graduates can expect to work in exciting roles around the world.



Giulia Lanzilotta, 22
Italian, student

"Data science is, in a sense, the study of the nature of information, which is at the very heart of humanity. It is thanks to our ability to store, process and share information that we were able to evolve at such a fast rate. As a result, data science allows me to unite my passion for human cognition with my passion for computer science. My dream is teach a machine to read – and understand – text. This advancement in the field of natural language understanding would not only benefit society by unlocking the huge amount of information that is expressed as text: it would also bring us closer to understanding the human mind. And ETH Zurich is one of the few universities providing an education that truly embraces the whole spectrum of possibilities that data science has to offer."



Mélanie Bernhardt, 25
French, Applied Researcher at Microsoft Research

"Understanding the maths behind the magic of AI, collaborating with world-class labs for my research projects, surrounded by classmates from all over the world: the MSc in data science was a great cocktail of benefits for me! I particularly appreciated the opportunities to collaborate with people from various fields of expertise as it allowed me to focus most of my projects on the health-related applications of machine learning, which I'm really passionate about. Besides lectures and projects, I also had great fun as a board member of the Analytics Club, connecting with other data enthusiasts at ETH. Overall, this Master's degree has opened all kinds of doors for me: it was an amazing experience!"

Roberta Huang, 26
Italian, Software Engineer at Google

"Looking back at my time at ETH Zurich, I found it extremely stimulating and rewarding. I had constant access to a world-class education that always pushed me past my intellectual limits, and formed long-lasting relationships with other incredibly talented students from all over the world. Within this resourceful environment, some friends and I founded the Analytics Club at ETH, a student community that has been growing ever since. ETH certainly shaped me, giving me a range of skills that I've constantly found beneficial in my career at the ETH spin-off GetYourGuide. They will also help me succeed in my new chapter at Google, where I am facing an array of interesting data-related challenges."

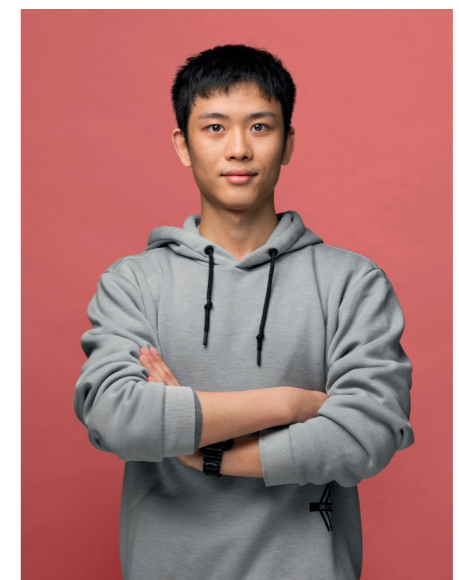


David Deuber, 24
Swiss, student

"During my Bachelor's degree in mathematics, I was particularly interested in probability theory and statistics. In addition, I wanted to do more applied work and programming. I especially like using advanced mathematical models to solve real-world problems. The Master's in data science offers me the opportunity to combine all these interests. You learn about all the steps of dealing with data, from storage through to efficient data management and sophisticated data analysis, and you can put all the theoretical foundations into practice in projects immediately, which I enjoy."

Sheng Zhou, 23
Chinese, student

"Computer science and data science play an indispensable role in overcoming the most difficult challenges we, as a society, face today, such as climate change. I especially enjoy developing ways to accomplish tasks more efficiently, more accurately, more securely or in a completely new way. For this reason, I plan to pursue a doctoral degree in an interdisciplinary field, combining computer vision, neuromorphic engineering and robotics. ETH Zurich is an excellent place for my studies since it provides high-quality education and great professors. As an added bonus, the student facilities are excellent, there are many opportunities to make new friends and Zurich is a lovely city."



Swiss Data Science Center: empowering data-driven science

A joint venture between EPFL and ETH Zurich, the Swiss Data Science Center (SDSC) was founded in 2017 to foster the adoption of data-driven science in academia and industry. With its data science expertise, it supports a wide variety of projects in collaboration with research institutions, companies and public entities, creating a unique synergy between the institutions within the ETH Domain as well as academic and industrial stakeholders.

In its academic projects, the centre fosters multidisciplinary research and enables scientific breakthroughs that have a major impact on society. Interest in its annual call for proposals has been growing exponentially. At the same time, the SDSC is in great demand within industry, where it acts as an educational platform to help train the leading data scientists of the future. The centre supports companies on complex data-related projects, especially smart and data-driven manufacturing, and helps them improve their return on investment for their digitalisation efforts. As a consequence, the SDSC facilitates the development of new technologies and intellectual property, which will play a major role in the new data-driven economy.

Its open-source platform RENKU, hosted on national infrastructure, is at the heart of the centre's efforts. The cloud-based RENKU Lab is available to researchers worldwide, facilitating multidisciplinary collaborations in data science and promoting reusability and reproducibility. Through a project called the Swiss Data Custodian, the SDSC also aims to tackle the challenging issues of data usage and data protection. It is a joint initiative between the



Olivier Verscheure

private sector, public and federal administrations, the humanitarian sector and the world of academia.

The centre employs a large team of multidisciplinary scientists and experts in domains such as personalised medicine, environmental science and economics, working from campuses in Lausanne, Zurich, and Villigen. The SDSC's reputation as a national centre fostering cutting-edge research and attracting exceptional scientists benefits Switzerland and the centre is called upon to play an increasingly important role on a national level, as well as to strengthen its collaboration with the federal administration in the years to come. ■

www.datascience.ch



From science to business

Sometimes students develop an innovative product idea while undertaking university research. When this happens, ETH Zurich supports them in their efforts to transfer research results to industry, for example by licensing them to external companies or by supporting the researchers as they set up their own company. To date, around 500 spin-offs have been created at ETH Zurich. Members of the Department of Computer Science have founded more than 50 of these.

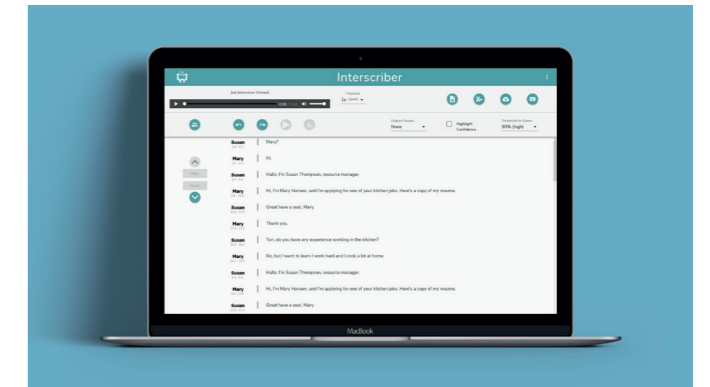


Teralytics: advanced analytics for the new age of mobility

The world is changing faster than ever and, with it, so too are people's mobility behaviour and their travel and transport needs. To make the right decisions for tomorrow, today, companies and public authorities need an in-depth understanding of these needs so they can stay one step ahead of developments. Teralytics collects and analyses mobile phone signal data and transforms it into accurate, inclusive and up-to-date mobility information. The results can be used to plan sustainable mobility solutions for the future, with an aim of further developing cities and their transport systems, for example. The analysis of mobility information can improve business processes, thereby increasing operational efficiency, and it can also help optimise travel times and ultimately reduce the environmental impact.

Teralytics is an ETH spin-off co-founded in 2010 by computer science alumni Georg Polzer and Luciano Franceschina. Headquartered in Zurich and with offices in New York and Singapore, it combines extensive experience and expertise in data science and machine learning. Its clients are large companies and organisations around the globe.

www.teralytics.net



SpinningBytes: solutions for text analytics and speech processing

SpinningBytes specialises in automated systems for natural language processing, e.g. for sentiment analysis, summarisation, topic classification and audio processing. They develop customised solutions for companies and organisations that want to extract useful information from their text and audio data.

The company aims to bridge the gap between research and industry. It works closely with Swiss universities and has won major prizes in several international scientific competitions. In 2020, SpinningBytes launched Interscriber, a web-based software solution to automatically transcribe and summarise recorded meetings using speech-to-text and speaker recognition methods.

Spinning Bytes is an ETH and ZHAW spin-off founded in 2015 by Mark Cieliebak and Martin Jaggi, both of whom hold a doctoral degree from ETH Zurich, and by Fatih Uzdilli, who was, at that time, a research associate at the Zurich University of Applied Sciences (ZHAW). Since then, Martin and Fatih have pursued their careers at EPFL and Google respectively, while Mark is the company's CEO and Professor for Natural Language Processing at ZHAW.

www.spinningbytes.com

ETH Zurich – where the future begins



Where once Albert Einstein studied and taught: the Main Building of ETH Zurich is one of the city's landmarks.

Freedom and personal responsibility, an entrepreneurial spirit and openness to the world: Switzerland's core values were also central to the foundation of ETH Zurich. The roots of this technical and scientific university go back to 1855, when the founders of modern Switzerland created this place of innovation and knowledge. At ETH Zurich today, students find an environment that demands independent thinking, while researchers enjoy a climate that inspires them to achieve excellence. Located at the heart of Europe and part of a worldwide network, ETH Zurich develops solutions for the global challenges of today and tomorrow.

For the benefit of society

ETH Zurich currently has over 22,500 students from more than 120 countries, of whom almost 4500 are doctoral candidates. More than 520 professors teach and conduct research in the fields of engineering, architecture, mathematics, natural sciences, systems-oriented sciences, management and social sciences.

The findings and innovations of ETH Zurich researchers are incorporated into some of the fastest-growing and most promising sectors of the Swiss economy: from IT, micro and nanotechnology to high-tech medicine. Each year, ETH applies for around 100 patents and 150 inventions. More than 500 spin-off companies have emerged from the university.

Top rankings

ETH Zurich is an institution with regional and national roots that is fully integrated into the international academic community. It measures itself in all respects against the world's leading universities – from its education and research to its management.

In international rankings, ETH Zurich regularly features as one of the best universities of technology and natural sciences in the world and as the leading university in its field in continental Europe.

Bright minds

The 21 Nobel laureates who have studied, taught or conducted research at ETH Zurich underline the excellent reputation of the university. Among the prize winners are Wilhelm Konrad Röntgen (1901), Albert Einstein (1921) and Kurt Wüthrich (2002). A Turing Award, popularly labelled the Nobel Prize in Computer Science, was awarded to Niklaus Wirth (1984), one of the earliest computer scientists and inventor of the Pascal programming language. ■

www.ethz.ch

Living and studying in Switzerland and Zurich

Everyday student life can be quite stressful and demanding. This makes it all the more important to have a well-organised learning setting, a strong social environment and a good balance between study and leisure time.

Where quality of life and beauty meet

Switzerland is famous for its political and economic stability, public safety and extraordinary beauty. National institutions like schools, healthcare providers and public transportation are of excellent quality. Many Swiss people are multilingual and, especially in the cities, English is often spoken. German is not required for a Master's programme at ETH, but a basic knowledge will help when settling in.

Zurich is Switzerland's largest city. It is truly international and ethnically diverse, offering a modern lifestyle and a vibrant nightlife. For many years, Zurich has been ranked among the top cities in the world for quality of life.

Centrally located with a view

ETH Zurich's campuses are distinguished by their central locations and are easily accessible by public transport. The Zentrum campus, with its historic Main Building, is within walking distance of the beautiful old town, which is replete with restaurants, cafés, museums and galleries. It is also close to a long promenade next to the lake that stretches more than 30 km towards the mountains.

A caring community

ETH provides a safe and pleasant environment that contributes to an inspirational learning experience. The university embraces diversity, and places strong emphasis on values such as respectful interaction as well as taking individual responsibility.



To enable growth and learning outside the classroom, ETH students and their associations provide a wide range of services for their peers. With networking events, parties, barbecues, dance classes, the photography lab, music rooms, cultural and artistic projects and the entrepreneur club, it is fair to say that there is something for everyone.

For brain, body and soul

Physical activity and a healthy lifestyle are part of the university's culture. The Academic Sports Association Zurich (ASVZ) provides state-of-the-art athletic facilities and over 120 different activities and sports, including outdoors, utilising Switzerland's beautiful mountain and lake landscape. ■

www.ethz.ch/student-life

Who? What? Where?

Address

ETH Zurich
Department of Computer Science
Universitätstrasse 6, CAB
8092 Zurich
Switzerland

Studies Administration Office

General questions, administrative concerns and study counselling
Bernadette Gianesi
master@inf.ethz.ch

Application and admission

Depending on the selected Master's programme and where the Bachelor's degree has been earned, a different admission process applies.

Bachelor's degree from ETH Zurich:

Some Master's degree programmes require a formal application, while others permit direct registration.

Bachelor's degree from other Swiss or foreign universities:

All students from other Swiss or foreign universities must apply at the Admissions Office.

Before starting the admission process, please check your eligibility:

www.ethz.ch/application

Admissions Office

All information regarding the admission process is provided by the Admissions Office.

www.admission.ethz.ch

Application deadlines

First application window:

1 November – 15 December mandatory for:

- students with a bachelor's degree from outside Switzerland
- students who wish to apply for the Excellence & Opportunity Scholarship programme (ESOP) or a Direct Doctorate programme (DD)
- Students with a Master's degree/PhD from a Swiss university who obtained their undergraduate degree outside Switzerland

Students with a Swiss Bachelor's degree are also welcome to apply during this period.

Second application window:

1 April – 30 April

Only available for students with a Swiss Bachelor's degree.

Dates are subject to change. Please visit the admission office website.

Financial information

ETH Zurich is committed to providing affordable education and, in contrast to most other top universities, keeps tuition fees to a minimum. Tuition and semester fees at ETH amount to around CHF 800 per semester. In addition, it is estimated that students spend CHF 20,000 to CHF 26,000 on study and living costs each year. www.ethz.ch/financial

Scholarships

It is primarily the responsibility of students and their families to finance their studies. If their means are insufficient, students may file a scholarship request or apply for the Excellence Scholarship & Opportunity Programme. www.ethz.ch/scholarships

Student organisations

www.vis.ethz.ch
www.vseth.ethz.ch
www.ethz.ch/int-student-associations

Committee for students without ETH Bachelor

vis.ethz.ch/moeb

Campus life

www.ethz.ch/student-life
www.asvz.ch
www.gastro.ethz.ch
www.bqm-bar.ch
www.ethz.ch/sph

Accommodation

www.wohnen.ethz.ch
www.woko.ch
www.wgzimmer.ch
www.students.ch
www.homegate.ch
www.ronorp.net

Social Media

www.facebook.com/ETHInformatik
www.twitter.com/csatheth
www.youtube.com/ETHInformatik
www.linkedin.com/school/csatheth

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