Master's programme in Machine Learning

Admission requirements
A Bachelor's degree (or equivalent) of at least 180 ECTS. Specific requirements as specified by each Master's programme on www.kth.se/int.

Degree awarded
Master of Science (120 credits). The degree gives access- to third cycle qualifications (doctorate).

Duration
120 credits/120 ECTS credits (two years).
The system is compatible with ECTS credits.

Location
KTH Campus, Stockholm

PROGRAMME START
Late August

Application
The complete range of Master's programmes offered by KTH will be published on *www.universityadmissions.se* by 1 December at the latest. However, a number of programmes may be available for application earlier. The application deadline is 15 January 2016.

Language of instruction
English

The grading scale is
A-Excellent, B-Very Good, C-Good, D-Satisfactory, E-Sufficient. No overall grade is given for a degree and students are not ranked.

Email
csc-master@kth.se

Fees and funding
www.kth.se/en/studies/master/kth/fees-funding-1.65872

The information in this brochure is valid for programme start in the autumn term 2016. Please note that the programme and the application process are continuously updated. Detailed and current information is available on https://www.kth.se/en/studies/master/kth

Machine Learning is a scientific discipline focused on the development of algorithms that spot patterns or make predictions from empirical data.

Already such algorithms have allowed computers to answer these questions: "Where are the faces in this photo?" and "Can you recommend a movie for me to watch?" In layman's terms, the relationship between data and predictions/patterns is learnt by examining a large quantity of relevant example information. This idea has become central to the design of search engines, robots and sensor systems which process large data set.

Programme outline

In this programme you will learn the mathematical and statistical foundations and methods for Machine Learning and become comfortable manipulating them to solve questions. You will also gain practical experience of how to match, apply and implement relevant techniques from the field to real world problems. Therefore, the programme provides the students with both the theoretical tools and practical know- how of machine learning, and this is an excellent basis for either a career within industry or further advanced studies.

The first semester is devoted to compulsory courses and provides an introduction and solid foundation to the field. Afterwords students can choose from a wide range of courses which describe how machine learning is used to solve problems in particular application domains such as computer vision, information retrieval, computational biology and robotics. Students are also given the chance to take course more basic theoretical courses in computer science, statistics and machine learning.

The final semester is dedicated to a degree project

Degree project

The second year of study culminates in a degree project. The purpose of this project is for the student to demonstrate the ability to perform independent project work, using the skills obtained from the courses in the programme.

Career prospects

The demand for engineers and scientists with knowledge in Machine Learning is growing as the amount of data in the world grows. Machine Learning is widely used in applications where sensor data is processed – automatic speech processing, computer vision or radar signal processing – and in areas where information is retrieved from large amounts of data. Internet search is the most obvious of this latter application. But large datasets occur in many domains, such as economics, medicine, meterology, geoscience, and astronomy. The fields of computer vision, speech technology and information retrieval also exploit ideas from Machine Learning.

This Master's programme is a suitable basis for work in a research and development department in industry, as well as for a continued research career in any of these areas

Specific admission requirements

There are general as well as specific admission requirements. The general requirements are the same for all applicants while the specific requirements may differ between programmes. A Bachelor's degree in Science or Engineering is required for most programmes at KTH. Please also see the relevant programme description(s) on https://www.kth.se/en/studies/master/kth
They will be updated by 1 December at the latest.

Contact
Christian Todoran
KTH, CSC-school of Computer Science and Communication
Lindstedsvägen 3
SE-100 44 Stockholm (csc-master@kth.se)