

Master of Science (MSc) Data Science & Artificial Intelligence

Admission

Admission will be based on application files and, ultimately, on an interview. Applicants will be asked to write a proposal for a Data Science & Artificial Intelligence project that they will be able to develop during the first year if they are selected.

Tuition fees

The registration fee is 4000 euros per year for non EU students.
Fees for French and EU students depend on the household income of the parents, from 300 to up to 4000 euros.
Merit-based scholarships may exceptionally be allocated by the admission committee on the basis of the excellence of the student.
Financial support may be provided for the internship's international mobility.

Partners



Master of Science (MSc) DATA SCIENCE & ARTIFICIAL INTELLIGENCE

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Data Science & Artificial Intelligence is an emergent field of activity, which will become increasingly vital to the digital economy in the coming years. This requirement is mainly due to our increasing capacities in data acquisition and processing. The UCA «Data Science & Artificial Intelligence» Master of Science prepares future specialists in mathematical techniques and computer tools necessary for the extraction of knowledge from masses of data.

Objectives

The «Data Science & Artificial Intelligence» Master is a 2-year MSc at the Université Côte d'Azur. It provides training in data science & Artificial Intelligence methods, emphasizing mathematical and computer science perspectives. Students will receive a thorough grounding in theory, as well as learning the technical and practical skills of data science & Artificial Intelligence enabling them to apply advanced methods of data science to investigate real world questions. The core courses will provide students with comprehensive understanding of some of the most fundamental aspects of data, computational techniques and statistical analysis. The program will combine traditional lectures with computer lab sessions, in which students will work with data to complete hands-on exercises using programming tools, and analyze real data provided by professionals who are working in the industry. The «Data Science & Artificial Intelligence» Master also leads to Ph.D. programs in the area of applied mathematics and computer sciences.



Program

First year:

Semestre 0: Refresher courses

Semestre 1:

Statistical inference: theory and practice I & II
Processing large datasets with R
Data visualization
A general introduction to Data Mining
Technologies for Big Data with Python
Distributed Big Data Systems
Security and ethical aspects of data
Workshops

Second year

Semestre 3:

Statistical Learning in High Dimensions
Bayesian Learning
Distributed Optimization and Games
Advanced Learning: functional, mixed and text data
Statistical Analysis of Graphs
Medical Image Processing
Deep Learning
Introduction to Information Theory
Optimization under constraints
Tensor Decompositions: models, algorithms and applications
Computer Vision
Workshops

Semestre 2:

Theory of Statistical learning I & II
Machine Learning: from theory to practice I & II
Model selection and resampling methods
Optimization for Data Science
Web of Data
Parallel Programming
Case studies
Internship 4 months

Semestre 4:

Internship 6 months

Future careers

Graduates will be competitive for positions both in private companies and public research institutes. They will be prepared to succeed in positions such as data scientists, data miners, or research assistants. Further research at the Ph.D.-level will prepare graduates for careers as research engineers or research.