



GRADUATE PROGRAM  
'INFORMATION AND  
KNOWLEDGE SOCIETY'

Master

Master 1 - Master 2

Mention

Data science

**DATA SCIENCE**



## PRESENTATION-TRAINING OBJECTIVES

- This master program provides a high level theoretical and practical 2 year curriculum in the new and trendy domain of data science. It includes an ensemble of courses, lab sessions, research projects and internships.
- The master of Data science will give you solid foundations in Mathematics (statistics, probability, optimization), computer science (algorithms, complexity, databases) as a basis for a very high knowledge on machine learning and applications (signal and image processing, graphs & networks...).
- Students will spend several months on internships every year. Internships will take place in R&D departments or in academic research labs. They are part of this 2 year program.
- More information:  
<http://fil.univ-lille1.fr/formations/master-data-science-0>  
<https://www.univ-lille.fr/formations/fr-00020709.html>

## TARGETED SKILLS

- High level of knowledge and know-how in data science and artificial intelligence, with a very good culture of machine learning, and mathematical foundations (optimization, probability, statistics) and computer science (efficient implementation of algorithms);
- Aptitude for research and / or development activities in the laboratory or in industry;
- Design and implementation of data science methods.

## JOB OPPORTUNITIES AND FURTHER STUDIES

This master is a perfect program to make you an excellent data scientist. Oriented toward academic research as well as research and development in companies, it gives the possibility to students to pursue a PhD program.



For more information on the national diplomas offered by the Faculty of science and technology of the University of Lille, consult the training catalog:

[www.univ-lille.fr/formations.html](http://www.univ-lille.fr/formations.html)

## TRAINING ASSETS

- This master program is supported by the University of Lille (3 Departments: computer science, mathematics, electrical engineering) as well as 2 renowned engineering schools (Grandes Ecoles): Centrale Lille and IMT Lille-Douai.
- Lille is an exceptional place to study Machine Learning thanks to its major research teams in the domain (Magnet, Sequel, Sigma, Modal among many others). High level courses, international seminars and lectures by researchers will give you the opportunity to learn research by doing research and get prepared for a great career in R&D departments or in academic research labs.



# MACHINE LEARNING

## PROGRAM STRUCTURE

All lessons and training courses are taught in English. The master is organized around blocks of knowledge and skills (BKS) :

Master 1 :

BKS1 : Fundamental notions for data science

BKS2 : Machine learning, statistical learning

BKS3 : Professional environment for research

BKS4 : Internship

Master 2 :

BKS1 : Refresher for students from another background

BKS2 : Foundations of data science

BKS3 : Foreign language

BKS4 : Research in practice

BKS5 : Internship and memoir

## THIS MASTER'S DEGREE PROGRAMME IS A MEMBER OF THE **GRADUATE PROGRAMME 'INFORMATION AND KNOWLEDGE SOCIETY'**

- The interdisciplinary Graduate Programme brings together 10 Master tracks, combining the expertises needed to build a human -friendly world. An outstanding scientific environment is provided with 13 research units recognized at the best international level.
- Students benefit from interdisciplinary activities, including thematic summer schools, financial support for international mobility and professional training in accordance with research and economic partners.
- This programme guides students to prepare their career and to tackle the scientific and technological challenges of our time.
- <http://www.isite-ulne.fr/index.php/en/graduate-programme-information-and-knowledge-society-student/>



# ADMINISTRATION

## STAFF

### Faculty of Science and Technology

#### Informatics Department

- University of Lille - Campus Cité Scientifique
- Educational secretariat:  
**Pierre RIGOLOT**  
Bât. M3 - bureau 21  
pierre.rigolot@univ-lille.fr  
+33 03 20 43 44 94

#### Centrale Lille Institut

- Campus Cité Scientifique
- Administrative manager - Masters-PhD  
**Magdalena BAIDAN**  
magdalena.baidan@centralelille.fr  
+33 03 20 67 60 92

## COORDINATOR

**Pierre CHAINAIS**  
pierre.chainais@centralelille.fr

## SUPPORT

### Study layout

In order to offer the best conditions for success for the students it welcomes, the University of Lille sets up various devices that allow students to start and continue their studies as best as possible according to their situation: student with a disability, high-level sportsman and artist, student service, student in exile ...

- More info on <https://www.univ-lille.fr/etudes/amenagements-des-etudes/>

### Continuing education and work-study

All of the university's degree offer is available in continuing education. You can also access this offer through a VAPP (validating of professional achievement and experience) or obtain the diploma as part of a VAE (validating of professional experience). Many diplomas are offered on a work-study basis as part of a professionalization or apprenticeship contract. For all information or to receive personalized advice, visit the website of the Direction of Continuing and Alternating Education (DFCA).

- <http://formation-continue.univ-lille.fr/>
- Reception: +33 (0)3 62 26 87 00
- [formationcontinue@univ-lille.fr](mailto:formationcontinue@univ-lille.fr)
- [vae@univ-lille.fr](mailto:vae@univ-lille.fr) - [alternance@univ-lille.fr](mailto:alternance@univ-lille.fr)

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### International relationships

The University of Lille has a policy of supporting international access to its courses. That's why he introduced special procedures to make international students feel welcome and form collaborations.

[www.univ-lille.fr/home/international-student/](http://www.univ-lille.fr/home/international-student/)

Practical information for your stay at the University of Lille

[www.univ-lille.fr/home/international-student-tool-box](http://www.univ-lille.fr/home/international-student-tool-box)

## APPLICATIONS

### TO MASTER 1 OR MASTER 2

Admission to the first year of the master's program is subject to the examination of the candidate's application file in the following ways:

**PREREQUISITES FOR ACCESS TO A MASTER'S DEGREE, RECOMMENDED LICENSE TERMS:** computer science, mathematics, electrical engineering, engineering schools

**INTEGRATION OF THE PROGRAM:** in initial and continuing training, university certificates

**CAPACITY:** 24

**RECRUITMENT CALENDAR VIA THE APPLICATION SUBMISSION ON THE E-CANDIDAT.UNIV-LILLE.FR PLATFORM:**

- Opening from 05/06/2020 to 05/30/2020,
- Publication of admissions: 06/26/2020,
- Applicant confirmation deadline 07/07/2020

**REVIEW CRITERIA:** Since the number of places is limited, candidates are individually selected. The selection committee takes the education track records into account with a focus on the background in mathematics and computer science, the level of knowledge, internship report, project report, motivations, English and French levels of each candidate. Candidates are invited to send their application through the dedicated website.

**International students must complete the Campus France procedure as soon as possible.** ([www.campusfrance.org/en](http://www.campusfrance.org/en)) for application to the Master and Student Visa.

Students with no Campus France agency and Europeans have to go through the university's application program e-candidat <https://ecandidat-2020.univ-lille.fr/>

## SCHOLARSHIPS

Scholarships awarded by the Graduate Programme « Information and Knowledge Society » are available to M1 and M2 students to support their studies, to facilitate their settling in Lille and to make an internship in a foreign country.

Eligibility, criteria and application can be found here :

<http://www.isite-ulne.fr/index.php/en/graduate-programme-information-and-knowledge-society-student/>

deadline : 15th March 2021 (first call) ; please check the date online for the second call