Université de Lille

Data science

Master Science des données

Durée
2 ans

Composante
Faculté des sciences et technologies

Langue(s) d'enseignement
Anglais

Présentation

The **Master in Data Science** provides a high-level theoretical and practical 2-year curriculum in the new and trendy domain of data science.
Its theoretical courses will give you solid foundations in mathematics (algebra, calculus, statistics, probability, optimization), computer science (algorithms, complexity, databases) and advanced knowledge on machine learning and its applications (signal processing, natural language processing, computer vision...). All courses include practical exercises or lab sessions to balance theory and practice.
In addition to these courses, additional activities will allow you to develop your practice of machine learning in a professional setting: data challenges (one per year), research projects (one per year), internships in academic lab or the industry (up to 10 months).
The Master also provides an exposition to research in the field through research projects, bi-monthly seminars by experts from industry and academia, and a reading group.
As the Master welcomes students from diverse academic and cultural backgrounds, you will study in a rich, international environment.
This Master is ideal to start a career in R&D in data science in the industry or pursue research in academia.

More information about the courses, admissions, costs and available scholarships is available on our website

Objectifs

This Master program aims at training experts in data science with a deep understanding of machine learning theory and the practical skills to implement state-of-the-art machine learning models. Thanks to a strong exposition to machine learning research, graduates are ready to start a career in R&D in the industry, or join a Ph.D. program.

Savoir-faire et compétences

- Understanding of the theoretical foundations of data science and machine learning
- Knowledge of major classical and state-of-the-art machine learning algorithms
- Design, implementation, and evaluation of machine learning algorithms
- Application of data science techniques to complex, real-world data and problems
- Development of data science projects end-to-end
- Research in data science and related fields
- Scientific communication in an international environment

Dimension internationale

This Master program is fully taught in English and open to international students.

Les + de la formation

Informations non contractuelles.
Dernière mise à jour le 09 avril 2026

This master program is supported by the University of Lille (computer science department and mathematics department) as well as two renowned engineering schools ("Grandes Écoles"): Centrale Lille and IMT Nord Europe.

Lille is an exceptional place to study Machine Learning thanks to its major research teams in the domain, from the CRIStAL Laboratory and INRIA.

The program includes high-level courses by researchers, bi-monthly seminars by researchers and practitioners in the field of data science, and research projects under the supervision of staff from local research labs. It will give you the opportunity to learn research by doing research and get prepared for a great career in R&D departments or academic research labs.

The Master welcomes students from diverse academic and cultural background, providing a rich, international learning environment.

Organisation

Organisation

The first year focuses on acquiring the scientific requirements in mathematics and computer science that underlie data science, and on mastering the fundamental models of machine learning. During the second year, the main focus is to study advanced topics in machine learning and applications of machine learning (natural language processing, signal processing, computer vision, etc.).

Practical activities (data challenges, internships), introduction to research (research project, seminars, reading group), and transversal skills are spread across both years of the Master.

At the beginning of each year, refresher courses are provided to bring all students to the same level in mathematics and computer science, and prepare them to the rest of the year, regardless of their initial academic background.

Every activity of the Master in Data science is part of one of the following "knowledge and skills blocks" (BCC):

• BCC: Consolidate Basics in Mathematics and Computer Science,

• BCC: Integrate Core Concepts in Mathematics and Computer Science for Data Science,

• BCC: Master Machine Learning and Statistical Learning Methods,

• BCC: Develop Transversal Skills,

• BCC: Develop Skills for Research,

• BCC: Undertake Data Science Projects in Real-world Contexts,

• BCC: Discover Advanced Topics in Data Science,

• BCC: Apply Data Science Methods to Complex Data.

Stages

Stage : Obligatoire

Stages obligatoires aux semestres 2 et 4.

Admission

Conditions d'admission

The M1 in data science is open to students who have completed (or will have completed by the end of the academic year) a Bachelor / Licence (or an equivalent degree) in one of the following fields:

- Pure or applied mathematics,
- Computer science,
- Mathematics and computer science,
- Mathematics and computer science applied to social science (French MIASHS program or equivalent),
- Electrical engineering,
- Computer engineering,

Informations non contractuelles.
Dernière mise à jour le 09 avril 2026

Université de Lille

- or any other Bachelor degree with a strong curriculum in maths and computer science.

Students who are currently enrolled in post-graduate studies (Master programme or Engineering school) in one of the aforementioned fields can also apply.

Applicants must demonstrate proficiency in English at the CEFR level B2 or above. The level in English can be demonstrated by an official certificate (TOEIC, TOEFL, IELTS, etc.), or through a statement issued by their home university that states their estimated level on the CEFR scale.

Applicants to the first year (M1) should follow one of the following procedures depending on their status:

- French students and students currently living in France must apply through MonMaster (https://monmaster.gouv.fr),
- Foreign students living in a country listed under the Études en France procedure (list here: https://pastel.diplomatie.gouv.fr/etudesenfrance/) must apply through this procedure and contact their local Campus France office for details about the procedure,
- Foreign students living in any other country must apply through MonMaster (https://monmaster.gouv.fr),
- Students from IMT Nord Europe, Centrale Lille or Centrale Casablanca must follow the specific double-degree admission procedure of their home institution.

Applicants to the second year (M2) should follow the procedure on the following website: https://www.univ-lille.fr/formation/candidater-sinscrire/ecandidat

Applications must include:

- a curriculum vitæ,
- a cover letter stating the academic and professional projects of the applicant,
- all available transcripts of grades from their Bachelor program (and Master program, if applicable),
- a certificate of English level on the CEFR scale (either a third-party certificate – TOEIC, TOEFL, etc. – or a statement from their home university),
- optionally, recommendation letters from professors.

Et après

Poursuite d'études

With its emphasis on theory and introduction to research, this Master program prepares students to join a Ph.D. program after graduation.

Insertion professionnelle

- Data scientist
- Data engineer
- Research or faculty staff in academia

Pour en savoir plus sur l'insertion professionnelle des diplômés de l'Université de Lille, consultez les répertoires d'emplois publiés par l'*ODiF (Observatoire de la Direction de la Formation)*

Les fiches emploi/métier du *Répertoire Opérationnel des Métiers et des Emplois* (ROME) permettent de mieux connaître les métiers et les compétences qui y sont associées.

Infos pratiques

Autres contacts

Contact administratif :
FST-master-datascience@univ-lille.fr

Contact pédagogique :
FST-master-datascience@univ-lille.fr

Informations non contractuelles.
Dernière mise à jour le 09 avril 2026

Université de Lille

Lieu(x)

Villeneuve d'Ascq

Campus

Campus Cité scientifique

En savoir plus

Master Data science
https://www.fil.univ-lille.fr/portail/index.php?dipl=MDS&label=Presentation

Faculté des Sciences et Technologies - FST
https://sciences-technologies.univ-lille.fr/

Informations non contractuelles.
Dernière mise à jour le 09 avril 2026