Université de Lille

Computer Sciences

Master Informatique

Durée
2 ans

Composante
Faculté des sciences et technologies

Langue(s) d'enseignement
Anglais

Présentation

The **Master's programme in Computer Science** at the University of Lille offers cutting-edge training for students aiming for management positions in the information science and communications technology sector. This Master's degree is a natural continuation of studies for students with a Bachelor's degree in General Computer Science. This programme offers four specialisations spread over two years, allowing students to deepen their skills in current fields. After completing an end-of-studies internship, graduates from each track can either enter the professional world in engineering positions or pursue a PhD and develop international expertise

Savoir-faire et compétences

Cybersecurity : From Edge to Cloud
Working closely with major players in cloud computing (which are very present in our region), particularly their services and their CISOs, but without neglecting cybersecurity companies, the Master's in Cybersecurity: from edge to cloud offers students cutting-edge knowledge and skills in the field of IT security, cloud software design and deployment, and the management and maintenance of large computing and data centres. The programme also emphasises technology monitoring skills, which are essential for security specialists. The skills acquired in the Cybersecurity: From Edge to Cloud programme are as follows: mastery of the concepts and algorithms of distribution and allocation; mastery of IT security tools and issues: cryptography, pen testing, intrusion detection systems, etc.; through learning DevOps practices, the ability to work in a team and express oneself in a professional setting.

AI programme
The skills acquired during this AI programme are mainly related to artificial intelligence techniques for the exploitation, analysis and forecasting of large amounts of data. The course focuses on three pillars: machine learning, algorithms and databases. At the end of the Master's programme, students will participate in the design and implementation of solutions based on supervised, unsupervised and reinforcement machine learning; advanced databases beyond the relational model and SQL; optimisation methods at the heart of learning; data mining and deep learning techniques based on textual or networked data. The programme is complemented by skills that enable students to integrate into a team and learn the main principles of entrepreneurship in IT. The introduction to research in the Master's programme is essential in this field.

Software Engineeringx programme
Working closely with the worlds of business, research and innovation, students on the Software Engineering programme acquire knowledge and skills applicable to the development and maintenance of modern information systems. In addition, awareness of technological developments facilitates the transition to the integration and effective deployment of new software technologies. The skills acquired in the Software Engineering programme are as follows: mastering the concepts and tools of software development; being able to intervene in all stages of the application life cycle; knowing how to adopt a development process that guarantees the production of high-performance, high-quality software; knowing how to effectively manage a development team;

mastering key technologies while knowing how to adapt to those that will replace them; being able to integrate into an agile team; knowing the main principles of entrepreneurship.

Les + de la formation

Strong background in computer science and software development.

- A program characterized by openness:
- Accessibility of pathways to all specializations of the master's program: cybersecurity, artificial intelligence, software engineering.
- Openness to research and innovation: events, projects, and courses related to research. Notably, the RIC Day (Research, Innovation, and Creativity), meetings with members of the CRIStAL, INRIA, and IRCICA laboratories. This exposure to research allows students to pursue doctoral studies and, within an industrial context, to understand technological developments throughout their careers, contributing to the strategic considerations of their companies. Possibility of pursuing doctoral studies.
- International openness: students can spend a semester or a year studying at a foreign university.
- Connection to the business world: over 100 apprentices, strong interaction with the professional environment (internships, apprenticeships), courses on business discovery. High employability upon graduation. Professional networks, including internship experience and support: guidance in exploring careers and finding internships; internships lasting three to six months in the master's program; presentations by numerous IT professionals from companies in the Lille metropolitan area.
- Training accessible to the greatest number: 750 students in the department, low tuition fees.
- Quality study environment: a facility with 450 quality workstations available to you, nearly 60 research teachers committed to your success.

Organisation

Organisation

The training is organised around the following skill sets:
BCC - Building your career plan and developing cross-disciplinary skills useful for the IT sector
BCC - Applying the theoretical foundations of IT
BCC - Analysing IT system vulnerabilities and developing secure solutions
BCC - Designing and developing software by mastering the life cycle and associated methods
BCC - Implementing artificial intelligence models to model and solve complex

Ouvert en alternance

Type de contrat : Contrat d'apprentissage, Contrat de professionnalisation.

Stages

Stage : Obligatoire

Admission

Conditions d'admission

For European students an no EEF students: Application: Submit your application by following this link: https://monmaster.gouv.fr
For EEF students: Etudes en France

Et après

Poursuite d'études

Each year, a fraction of students continue their studies at the postgraduate level, i.e. in a PhD programme in Computer Sciences.

Insertion professionnelle

Master's graduates will have the opportunity to work in rapidly expanding sectors using artificial intelligence and machine learning techniques. These include IT service companies, in departments dedicated to decision-making and forecasting, or in research and development departments in a variety of fields such as distribution, sales management, commercial strategy, health, telecommunications, geolocation, web technologies, software development, energy management, transport, banking and insurance.

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 des Formations)

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 et pédagogique :

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Lieu(x)

Villeneuve d'Ascq

Campus

Campus Cité scientifique

En savoir plus

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