IA-MASTER MINDS

A new, innovative, and high-level integrated transnational study program at Master level in artificial intelligence and engineering systems
MASTER MINDS

A 2-year multidisciplinary joint program covering 4 specialty areas in the field of advanced research in Artificial Intelligence and advanced technologies involving 4 European institutions (INSA Lyon, University of Passau, University of Milan, Universitat Autònoma de Barcelona).

IA-Master Minds study program is delivered 100% in English.
A UNIQUE GLOBAL AND EUROPEAN VISION OF DIGITAL TRANSFORMATION

THE FOUR SPECIALTIES AND SCIENTIFIC PILLARS OF AI ADDRESSED IN MASTER MINDS

**COMPUTER VISION & ROBOTICS**
To leverage computers through AI based architectures to be able to observe the outer world real-time visible data and make decisions according to the demand.

**DISTRIBUTED SYSTEMS**
To acquire fundamentals and the basis of innovative technologies on distributed solutions through a distributes AI and multi-agent systems.

**CYBERSECURITY**
To create a strong foundation and detailed technical knowledge in security, privacy, data protection and cryptography applied to computer systems.

**AI SYSTEM ENGINEERING**
To acquire the ability to integrate artificial intelligence into existing real-world systems (e.g. media systems, information systems, industrial processes).

→ **SUB-DOMAINS**
(shared between M1 and M2):

- Data sciences & basics of statistical learning – Data sciences & probabilistic graphical models – Optimization for AI
- Big data applications & Large scale analysis
- Logic and symbolic artificial intelligence
- Architecture of intelligent systems – software development technologies
- Computer security systems - privacy and data protection
- Distributed and pervasive systems
- Machine learning for images
- Ethics, sustainability and deontology in artificial intelligence
**MODULES & COURSES**

*Courses are delivered in English*

## 2-YEARS CURRICULUM:

**Master 1:** Common Core (30 ECTS), Advanced courses (18 ECTS), Internship (12ECTS)

**Master 2:** Specialized tracks (30 ECTS) and Master Thesis (30 ECTS)

From the 2nd semester of M1 to the end of M2, each student can build his or her own curriculum by choosing a coherent subset of teaching units (UE) from the courses offered in the core curriculum.

### Internships:
- 3 months of internships in M1 with recommended mobility to a partner university
- 6 months of internships in M2 with mandatory mobility

### Collaboration with industrial partners to address real-life challenges

- **Real case studies:** Integrate a strong partnership dimension with industry in an inclusive way, by targeting project and internship topics connected to the world and to real issues.
- **Master seminar** (with industrials)
- **The dimensions of ethics and sustainability** are addressed in all tracks of the student’s curriculum

### Main professional opportunities:

Students of curriculum are ideally placed to work in positions requiring an understanding of modern AI formalism and technologies (such as Machine Learning, Deep Learning, Semantic Technologies like Natural Language Processing), but also Security system, Big data analytics and distributed software engineering.

This includes the obvious positions in the digital industry, but also positions in scientific research.

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**IRIXYS**

Part of the IA-Master Minds consortium is also part of the International Research and Innovation Center on Intelligent Digital Systems (IRIXYS), which brings together academics and researchers from France, Italy, and Germany to address burning issues in data science and artificial intelligence.

Over the years, IRIXYS established a strong network of cooperation with industry and socio-economic partners. Various R&D teams from international IT leaders, including Atos, Worldline Siemens, SAP, ST Microelectronics, etc. have collaborated or are currently involved in IRIXYS activities.
INTEGRATION TO CAMPUS LIFE

The INSA campus is based 15-min away from Lyon city center. Lyon is the 2nd biggest city in France and was elected several times in a row best student city!

We aim at fostering well-being on our open and dynamic campus. All year-round students benefit from:

- 130 student clubs and associations
- On-campus accommodation and 7/7 catering
- 24-hour security guaranteed
- Medical and psychological assistance at any time

SUMMER SCHOOL

Taking part in the French Summer School is the best way to quickly integrate your new environment, before starting the autumn semester at INSA Lyon.

For almost one month, you will improve your French language skills and learn about French culture.

For more information visit: https://fle.insa-lyon.fr/

THE PROFILE WE VALUE

Prerequisites

- Bachelor of Science, preferably in Computer Science with a minimum of 50% Computer Science.
- A strong background in Computer Science reflected, for example, in solid programming and software development skills, but also in data sciences, and mathematics.
- A certified B2 level in English. No minimum level of French is required.

COSTS (subject to validation by the institute)

<table>
<thead>
<tr>
<th></th>
<th>National Fees</th>
<th>Master’s fees</th>
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<tbody>
<tr>
<td>EU students or affiliated *</td>
<td>243 € + 95 € CVEC</td>
<td>7694 €</td>
</tr>
<tr>
<td>Non-EU students</td>
<td>3770 € + 95 € CVEC</td>
<td>7694 €</td>
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* as defined in the article 3 of Ministerial Order of April, 19th 2019
(https://www.legifrance.gouv.fr/loda/id/JORFTEXT000038396885/)

ADMISSIONS

Depending on your country of origin, applications must be submitted between November and February.

Register on the Study in France platform:

For more information related to the IA-Master Minds please visit the following link:
https://fedora.insa-lyon.fr/fr/content/ia-master-minds
or scan the QR Code: