

ÉCOLE NATIONALE D'INGÉNIEURS DE BREST (ENIB)
ENSTA BRETAGNE
IMT ATLANTIQUE
UNIVERSITÉ DE BRETAGNE OCCIDENTALE (UBO)

Master in Computer Science

Intelligent and Autonomous Interactive Systems (SIIA)

Aims

The SIIA specialization is a joint degree between Brest's leading higher education establishments (UBO, ENIB, ENSTA Bretagne and IMT Atlantique) which have come together to build a shared programme based on their cutting-edge knowledge in Intelligent and Autonomous Interactive Systems.

This Master by Research places an emphasis on research skills by giving students the opportunity to follow 3 academic modules among 5, and do a research project supervised by a local researcher. It can give a useful insight on what studying for a doctorate entails, whilst at the same time allowing to earn a valuable masters level qualification.

The main theme of the programme focuses on computer systems related to human uses. More specifically, the notion of interaction between artificial systems and humans will be studied, both in the case of humans immersed in complex systems and humans designing and creating such systems. Current knowledge of artificial intelligence, learning, cognitive science, modelling and verification, virtual reality, robotics, sensor networks, modelling and simulation through multi-agent systems are presented in the 8 course units. The classes are taught by researchers from the computer science departments at UBO, ENIB, ENSTA Bretagne and IMT Atlantique.

Skills acquired

On course completion, graduates will be capable of:

- Contributing to a research and development project within a company and leading a laboratory-based research project for instance for a PhD (autonomy, open-mindedness)
- Conducting scientific and technical intelligence and sharing/disseminating the knowledge acquired
- Setting up intelligent autonomous systems which may include human computer interaction.

Prerequisites

Each candidate must have a research project in the M2 SIIA topics, and a supervisor belonging to the Lab-STICC.

The research project must be built ahead of your application. We recommend you to identify a suitable supervisor to discuss your research idea before you apply to ensure that we have the right specialist area you are interested in, and that this area is within the Master's topics.

The web site of the [Lab-STICC Interaction Department](#) is a good place to start to find a supervisor.

Applications

With a maximum of 24 places on this course each year, the admissions process to this 2nd year of the Master's course is selective and application-based.

Application documents: Certified minimum level of C1 in English (850 TOEIC points) (or native language); Certified Bachelor's degree (Licence, 180 validated ECTS or equivalent) and transcripts of grades; Certified ongoing Master's degree (60 validated ECTS or equivalent) and transcripts of grades; Motivation letter and CV; Short description of the research proposal (1-3 pages); **Opinion letter from the project local supervisor**

Applications must be submitted in PDF format to jriviere@univ-brest.fr , bossier@enib.fr , gilles.coppin@imt-atlantique.fr and joel.champeau@ensta-bretagne.fr by the deadline date (see **Key Dates**)

Content

| Module Name | Description | Semester | Taught Hours | ECTS |
|------------------------|---|----------|---------------|------|
| 3 modules from: | | 9 | 144 | 12 |
| IEVA | Modelling of virtual environments, behaviour models of autonomous entities, Embodied Conversational Agents, procedural generation | 9 | 48 | 4 |
| RVRA | Interactive Systems, Augmented and Virtual Reality 9 48 4 | 9 | 48 | 4 |
| I2SA | Collective Intelligence, Interactions and Autonomous Systems : Multiagent Systems, interactions and robot swarms | 9 | 48 | 4 |
| MCSI | Modelling, Design and Ergonomics for Interactive Systems | 9 | 48 | 4 |
| IML | Interactive Machine Learning and Deep Learning | 9 | 48 | 4 |
| FLE | French as a Foreign Language | 9 | 30 | 3 |
| Research Project | A research project within the Master topics, supervised by a local researcher | 9 | 155 | 15 |
| Scientific Methodology | Experimental validation of research hypothesis, Evaluation of Interactive Systems | 9 | 24 | 2 |
| Bibliography | Conducting a scientific survey | 10 | 8 | 5 |
| Internship | An internship within the Master topics, in France or abroad | 10 | 5 to 6 months | 20 |



Université de Bretagne Occidentale



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IMT Atlantique
Bretagne-Pays de la Loire
École Mines-Télécom



ENSTA
Bretagne

More information: <https://siiia.univ-brest.fr/SIIABByResearch/>

Internship

Mandatory long-term internship (20 weeks)

Start of internship: mid-January

Duration: 20 weeks

Note on duration:

Minimum of 5 months in a research laboratory in France or abroad

Career opportunities

PhD in Computer Science, public research sectors, Research and Development departments, computing service providers, business IT departments...

Learning environment

- Specializations related to regional priorities, with high-level teaching geared mainly towards research and development positions.
- Links with research activities of a leading laboratory: Lab-STICC (CNRS UMR 6285).
- Teaching delivered through a combination of lectures and tutorials with a strong emphasis on personal and team projects.
- Teaching delivered in English when international students are present.

Practical information

- **Ecole Nationale d'Ingénieurs de Brest (ENIB)**
- **Teaching location:** Brest

Contact: scolarite@enib.fr

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Service Scolarité – Master Informatique

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Key dates

Application period: **Monday 13 May to Friday 21 June 2024**

Notification of acceptance: beginning of July

Classes begins: September

Classes end: February

Internship period: mid-February -> mid-July (20 weeks)