ECOLE NATIONALE D'INGENIEURS DE BREST (ENIB)
ENSTA BRETAGNE
IMT ATLANTIQUE
UNIVERSITE 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.
The main theme of this 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.

Applications

With a maximum of 24 places on this course each year, the admissions process to the 2nd year of the Master's course is selective and application-based.
Application documents: application form, CV, cover letter, copy of qualifications and academic transcripts (post-secondary).
Deadline: applications must be submitted in PDF format to scolarite@enib.fr by 1st June

Module List

Module Name	Description	Semester	Taught Hours	ECTS
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
Conferences	Guest lectures by professional experts from the industry or academia about R&D and Research topics	9	10	2
Scientific Methodology	Experimental validation of research hypothesis, Evaluation of Interactive Systems	9	24	2
PVP	English, Communication, Professional skills	9	66	6
Project	Personal work on a project related to one (or several) academic module.	10	60	5
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

More information: https://siia.univ-brest.fr/w/index.php/Syllabus

Internship

Mandatory long-term internship (20 weeks)

- Type of internship: Assignment
- Start of internship: mid-January
- Duration: 20 weeks
- Note on duration:

Minimum of 5 months in a research laboratory or company (preferably in a R&D department).

Further study

As this Master's degree is a combined professional and research course, the internship may be carried out in an industrial or academic context (e.g. public research laboratory). The internship must last between 5 and 6 months. Internships take place between mid-January and mid-July. A wide array of topics are available to students thanks to partnerships forged by the academic team. Internships abroad are possible.

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

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Course content

Key dates

Application deadline: 6th June 2023
Classes begins: September
Classes end: end February
Internship period: mid-February -> 1st July (20 weeks)