Master Optique, Image, Vision, Multimédia Parcours Imaging and Light in Extended Reality (IMLEX)

Diplôme Master
Domaine d'étude Sciences, Technologies, Santé
Parcours Imaging and Light in Extended Reality (IMLEX)

Objectifs

The IMLEX Erasmus Mundus Joint Master Degree, in partnership with Japan, brings together image conversion, lighting and computer science. Its objective is to train experts who, in addition to a solid theoretical understanding of virtual reality, will also possess strong practical skills in virtual reality applications.

Students on the IMLEX programme will benefit from the European research expertise combined with the Japanese expertise in research addressing virtual reality and robotics. This joint master degree is implemented by four universities: University of Eastern Finland and Toyohashi University of Technology (Japan), Jean Monnet University Saint-Etienne (France) and KU Leuven (Belgium).

Pour qui ?

Conditions d'admission

Applicants must hold a Bachelor's degree in Computer Science, Information Technology, Physics, Mathematics, Electronical Engineering, Photonics, or in a related field with good grades, issued by an internationally recognised university.

Et après ?

Poursuites d'études

IMLEX opens up for international and challenging career opportunities, since on the international job market. The demand for postgraduates in computer vision, imaging science, computer science and XR technologies as well as basic and applied research is very high. Postgraduates will be qualified to work in any company that uses digital media tools and systems, such as the imaging industry, the mobile industry, or the gaming industry.

Some examples of future career prospects: scientific advisor, chief scientist, R&D coordinator, research engineer, consultant, technical business development manager/director, technology manager.

This master programme also qualifies the postgraduate for PhD studies.

Programme

M1 - SEMESTER 7 - Fundamental Courses	Credits
UE 1 - Photonics and Optics Fundamentals	4
UE 2 - Design and Analysis of Algorithms	4
UE 3 - Robotics and XR	4
UE 4 - Physical Optics	4
UE 5 - Eye Tracking	4
UE 6 - English or Japanese or national language	2

M1 - SEMESTRE 8 - Computational Imaging	Credits
UE 1 - Real-time 3D Visualization	5
UE 2 - Real-time processing of Image with GPU	5
UE 3 - Complex Computer Rendering Methods in Real Time	6
UE 4 - Machine Learning: Fundamentals and Algorithms	5
UE 5 - Deep Learning and Computer Vision	6
UE 6 - English or Japanese or national language course	3

M2 - SEMESTER 9 - Specializations	Credits
UE 1 - Data Science and Analysis	4
UE 2 - Advanced Research Methods	6
UE 3 - Japanese Culture and Society	4
UE 4 - Case Study in Imaging and Light and XR	6

UE 5 - Japanese Industrial Technologies and Innovations	2
UE 6 - 3D Vision Computation	4
UE 7 - Robotic Perception and Human-robot Interaction	4

M2 - SEMESTER 10 - Master's Thesis	Credits
UE 1 - Internship	30

Coût de l'inscription

9000€

Détail coût d'inscription

4500€ / year for European Students

9000€ / year for non-European students

Scholarships available with the EU and the Manutech-SLEIGHT Graduate School

Self-funded students will be able to pay participation costs in three instalments.

Contact

Contact(s) scolarité

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