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)

Découvrez le site dédié au Master 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 ?

Poursuite 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

SEMESTER 7 - University of Eastern Finland (UEF)

- Photonics and Optics Fundamentals : 4 ECTS
- Design and Analysis of Algorithms : 4 ECTS
- Robotics and XR : 4 ECTS
- Physical Optics : 4 ECTS
- Eye Tracking : 4 ECTS
- English or Japanese or national language course : 2 ECTS
- **Afin de comptabiliser au moins 30 crédits, les étudiants choisissent pour le Lighting track :**
  1. Mathematical Methods for Photonics : 4 ECTS

  Applications of Photonics : 4 ECTS
- **Afin de comptabiliser au moins 30 crédits, les étudiants choisissent pour le Computational Imaging track :**
  1. Color Science : 4 ECTS

  Advanced Spectral Imaging : 4 ECTS

SEMESTER 8 - University Jean Monnet (UJM)

- Real-time 3D Visualization : 5 ECTS
- Real-time processing of Image with GPU : 5 ECTS
- Complex Computer Rendering Methods in Real Time : 6 ECTS
- Machine Learning: Fundamentals and Algorithms : 5 ECTS
- Deep Learning and Computer Vision : 6 ECTS
- **Afin de comptabiliser au moins 30 crédits, les étudiants choisissent pour le Computational Imaging track :**
  1. English or national language course : 3 ECTS

  Japanese language course : 3 ECTS
- Internship (optional) : 0 ECTS
- Option : Scientific communication : 0 ECTS

SEMESTER 8 - KU Leuven

- Lighting Science : 6 ECTS
- Lighting Technology : 6 ECTS
- Lighting Metrology : 5 ECTS
- Lighting Design : 6 ECTS
- Lighting Business : 6 ECTS
- English or Japanese or national language course : 3 ECTS
- Internship (optional) : 0 ECTS

SEMESTER 9 - Toyohashi University of Technology (TUT)

- Data Science and Analysis : 4 ECTS
- Advanced Research Methods : 6 ECTS
- Japanese Culture and Society : 4 ECTS
- Case Study in Imaging and Light and XR : 6 ECTS
- Japanese Industrial Technologies and Innovations : 2 ECTS

Afin de comptabiliser au moins 30 crédits, les étudiants choisissent pour le Lighting track :

- Human Sensation & Perception : 4 ECTS
- X Reality and Psychology : 4 ECTS

Afin de comptabiliser au moins 30 crédits, les étudiants choisissent pour le Computational Imaging track :

- 3D Vision Computation : 4 ECTS
- Robotic Perception and Human-robot Interaction : 4 ECTS

SEMESTER 10

- Master Thesis : 30 ECTS

Coût de l'inscription

€

Détail coût d'inscription

More information

Contact

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