



UNIVERSITÀ
DI TRENTO

DEPARTMENT OF

INFORMATION ENGINEERING AND COMPUTER SCIENCE



LM Information Engineering

LM Ingegneria dell'Informazione

Responsabile CdS: Giulia Boato giulia.boato@unitn.it

AY/AA 2025/2026





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LM Information Engineering

It is thought of as a **natural continuation**
and **1-1 match** with our **ICE*** bachelor degree

* Ingegneria Informatica, delle Comunicazioni, Elettronica

UniTrentoDISI YouTube - Presentation of the
Master's Degree in Information Engineering





LM Information Engineering – specific learning objectives

Graduates in Information Engineering learn:

- **to conceive, design and manage complex systems**
- **a broad set of skills in interdisciplinary application contexts**

thanks to a **solid technical and scientific knowledge** in the area of IE:

- knowledge of the most advanced methodologies and tools for the design of **acquisition, transmission and processing** systems for **heterogeneous signals and data**
- ability to design, engineer and manage **intelligent systems**
- solid command of **engineering methodologies** to understand the limits and criticalities of a system
- capability to understand how to implement **technology transfer and business management**

HOW

consolidation of the foundational topics (digital signal processing, networking and recognition systems)

choice among **four different curricula**



LM Information Engineering – innovative teaching paradigms

- **lectures and laboratory activities for a hands-on application** of the theoretical aspects: frontal lectures, laboratory activities
- promoting the **participation of companies and industries**: thematic seminars, internship, supporting projects
- **experiencing real-world problems**
- **challenge-based learning**
- new focus on **soft-skills**, essential feature for a successful professional figure





LM Information Engineering – training paths

Mandatory (36+6 CFU)

Specialization (30 CFU)

Free Choice (18 CFU)

Internship and Thesis (30 CFU)



LM Information Engineering – training paths

- Digital Signal Processing (12 CFU)
- Networking (12 CFU)
- Recognition Systems (12 CFU)
- Innovation and Business in ICT (or Industry Challenges) (6 CFU)

Mandatory (42 CFU)



Mandatory (36+6 CFU)

Specialization (30 CFU)

Free Choice (18 CFU)

Internship and Thesis (30 CFU)



LM Information Engineering – training paths

- Computer Engineering
- Communications Engineering
- Electronics Engineering
- Biomedical Engineering

4 Specialization - (30 CFU)



Mandatory (36+6 CFU)

Specialization (30 CFU)

Free Choice (18 CFU)

Internship and Thesis (30 CFU)



LM Information Engineering – training paths

- **Multimedia Data Security (6 CFU)**
- **Computer Vision (6 CFU)**
- Computer Graphics (6 CFU)
- Distributed Systems (6 CFU)
- Service Design and Engineering (6 CFU)
- Fog and Cloud Computing (6 CFU)
- Blockchain (6 CFU)
- Deep Learning (6 CFU)

**Specialization Computer
Engineering (30 CFU)**



Mandatory (36+6 CFU)

Specialization (30 CFU)

Free Choice (18 CFU)

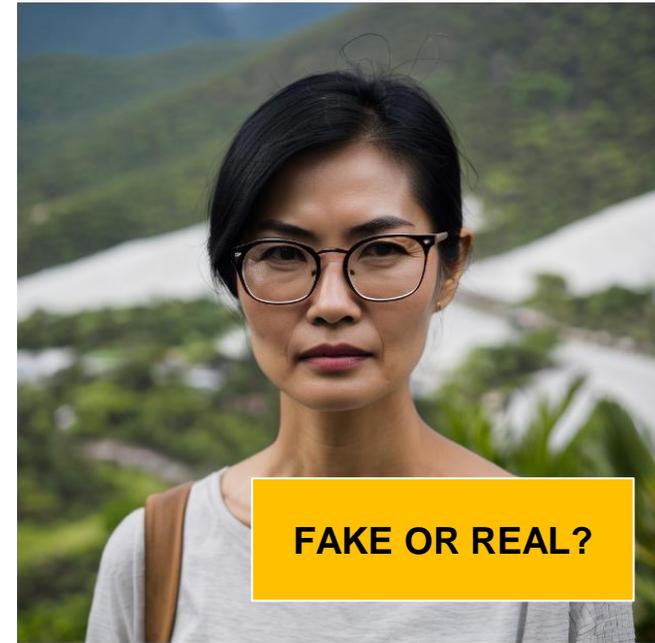
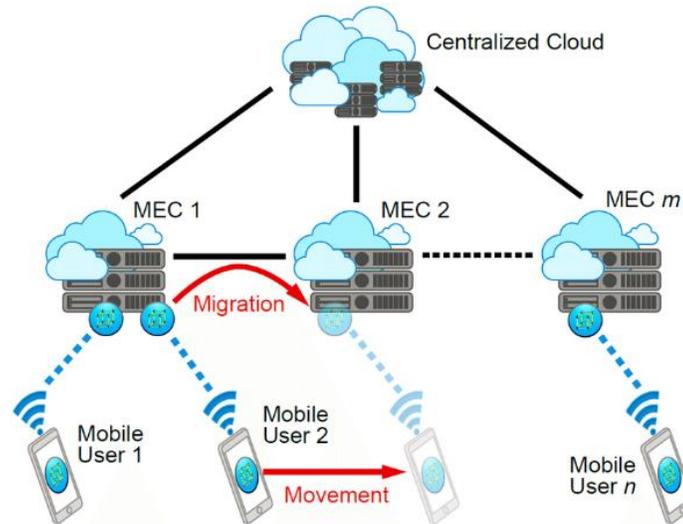
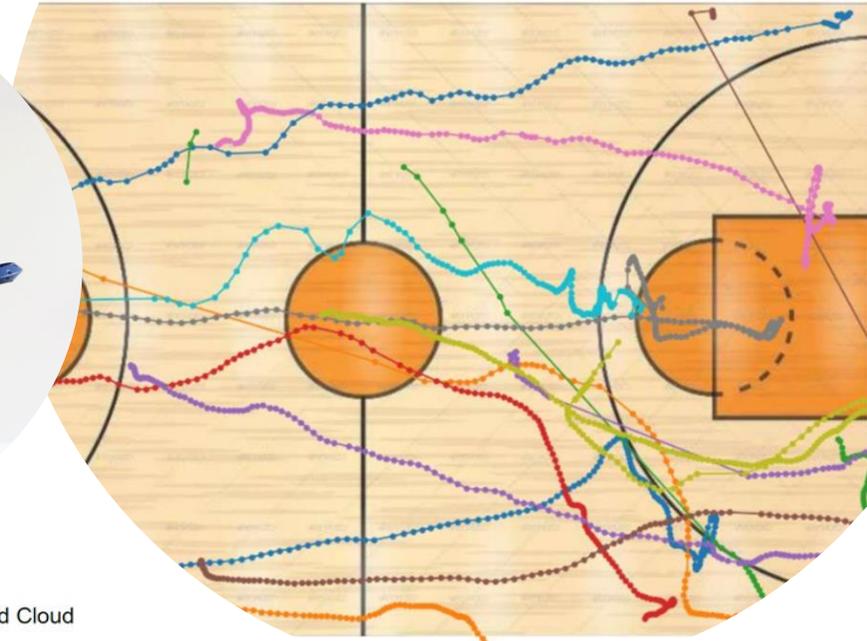
Internship and Thesis (30 CFU)



LM Information Engineering

Computer Engineering

- Video Surveillance
- Human Pose analysis
- VR and Simulation
- Deepfake Detection
- AI for security
- Advanced Computing





LM Information Engineering – training paths

- ***Introduction to Computer and Network Security / Network Security (6 CFU)***
- Simulation and Performance Evaluation (6 CFU)
- Communication Systems (6 CFU)
- Radar and radiolocalization (6 CFU)
- Advanced remote sensing systems (6 CFU)
- Wireless Networking and Localization (6 CFU)

**Specialization Communications
Engineering (30 CFU)**



Mandatory (36+6 CFU)

Specialization (30 CFU)

Free Choice (18 CFU)

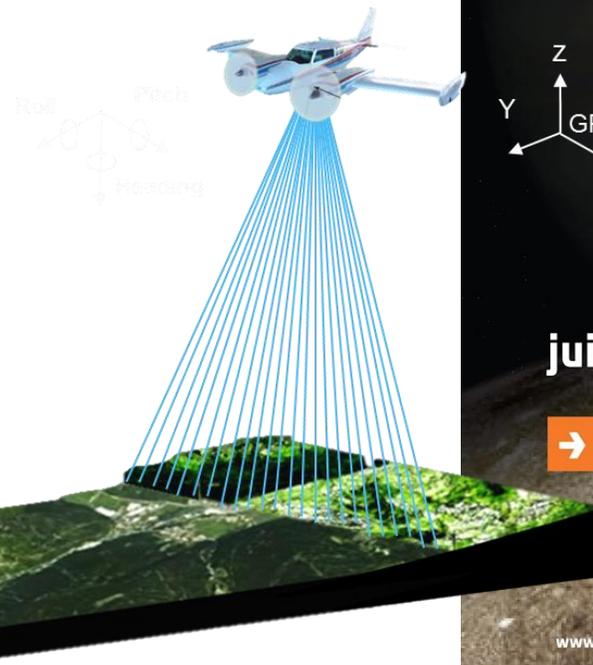
Internship and Thesis (30 CFU)



LM Information Engineering

Communications Engineering

- Wireless & Mobile Networks
- Sustainable ICT infrastructure
- Localization and sensing
- Autonomous Systems
- Earth Observation
- Planetary exploration



juice

→ JUPITER ICY MOONS EXPLORER



LM Information Engineering – training paths

- **Analog Electronic Systems (6 CFU)**
- **Low-power wireless networking for IoT (6 CFU)**
- GPU Computing (6 CFU)
- Advanced computing architectures (6 CFU)
- High Performance Computing (6 CFU)
- Low-power Embedded Systems (6 CFU)
- Microelectronic devices, sensors and MEMS (6 CFU)

**Specialization Electronic
Engineering (30 CFU)**



Mandatory (36+6 CFU)

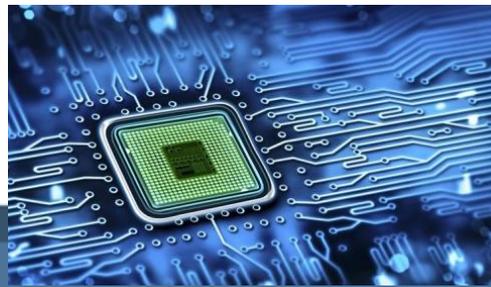
Specialization (30 CFU)

Free Choice (18 CFU)

Internship and Thesis (30 CFU)



LM Information Engineering

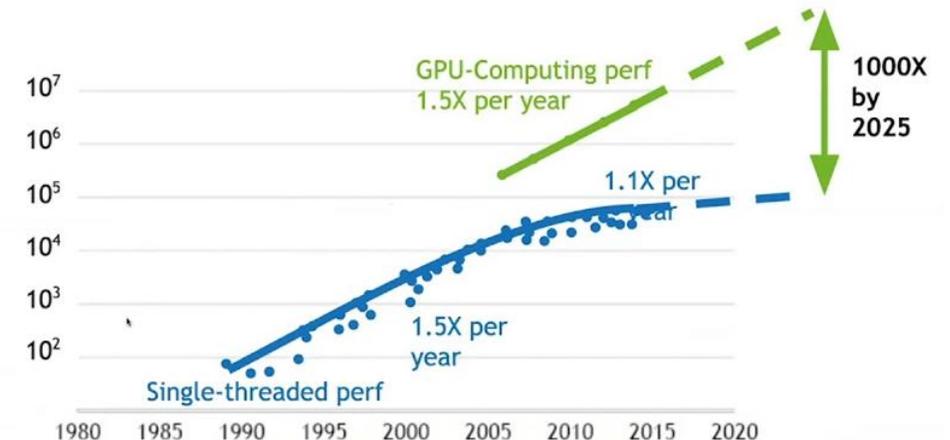
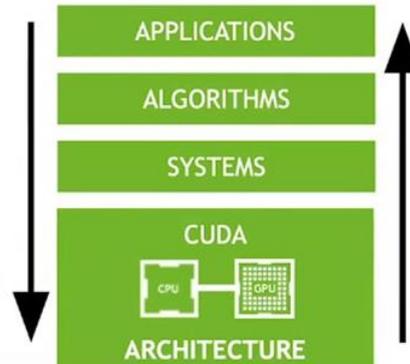


Electronics and computing architectures

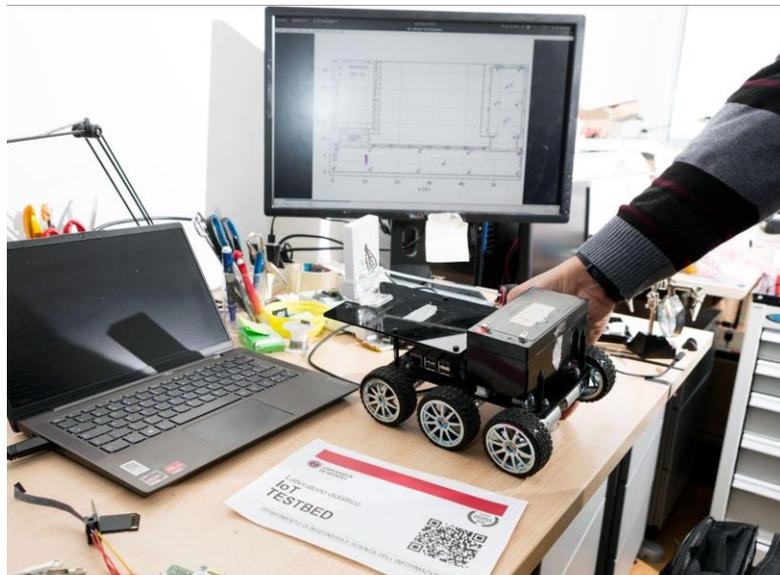
- Computing Architectures and GPU
- Sensors
- Microelectronic Devices
- Low-power Embedded Systems
- Electromagnetic safety and security



RISE OF GPU COMPUTING



Original data up to the year 2010 collected and plotted by M. Horowitz, F. Labonte, O. Shacham, K. Olukotun, L. Hammond, and C. Batten New plot and data collected for 2010-2015 by K. Rupp





LM Information Engineering – training paths

- ***Fundamentals of Biomedical Imaging (12 CFU)***
- ***Ultrasound Medical Imaging (6 CFU)***
- Digital Health Systems (6 CFU)
- Robotics for Biomedical Engineering (6 CFU)
- Digital Epidemiology (6 CFU)
- Sport Tech (6 CFU)

**Specialization Biomedical
Engineering (30 CFU)**



Mandatory (36+6 CFU)

Specialization (30 CFU)

Free Choice (18 CFU)

Internship and Thesis (30 CFU)

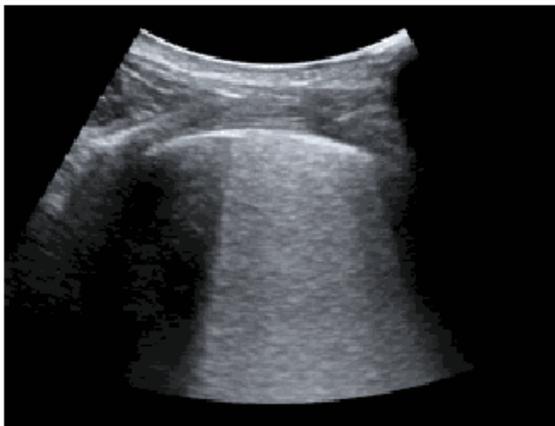


LM Information Engineering

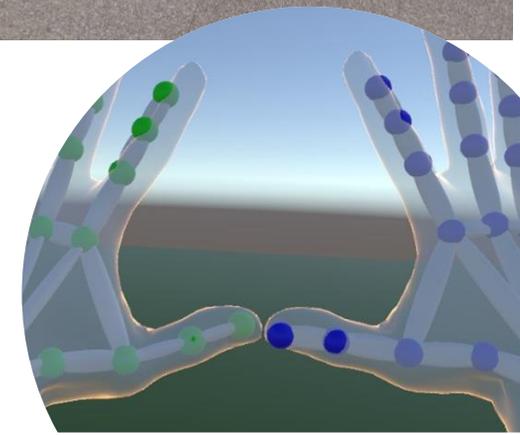
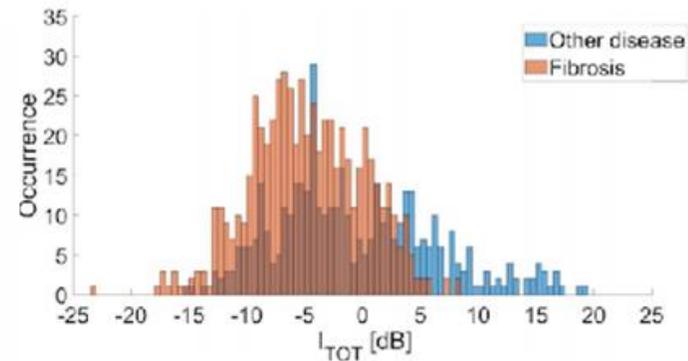
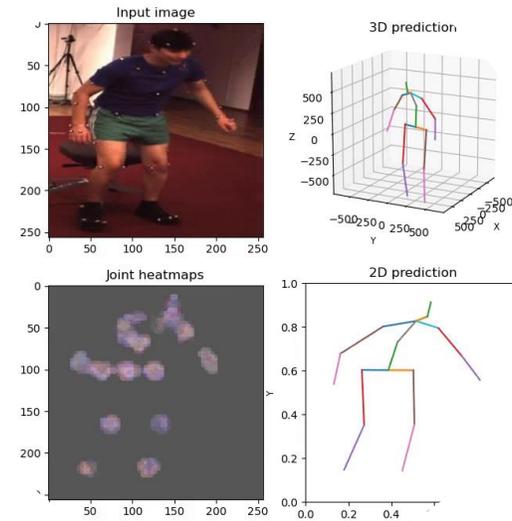
Biomedical Engineering

- Biosignal Analysis
- Biomedical Imaging (Cancer, Brain, Vascular)
- Ultrasound Localization Microscopy
- High Tech for Hospitals & Doctors
- High Tech for Sport

B-mode - scored as: 3.0



Semantic segmentation



LM Information Engineering – training paths

- All courses offered by DISI accepted with no problems
- Courses offered by other departments needs a justification and are subject to approval by the CdS responsible
- Possible suggestions: keep all courses in your specialization or select a “secondary specialization” with 3 courses

Free Choice (18 CFU)



Mandatory (36+6 CFU)

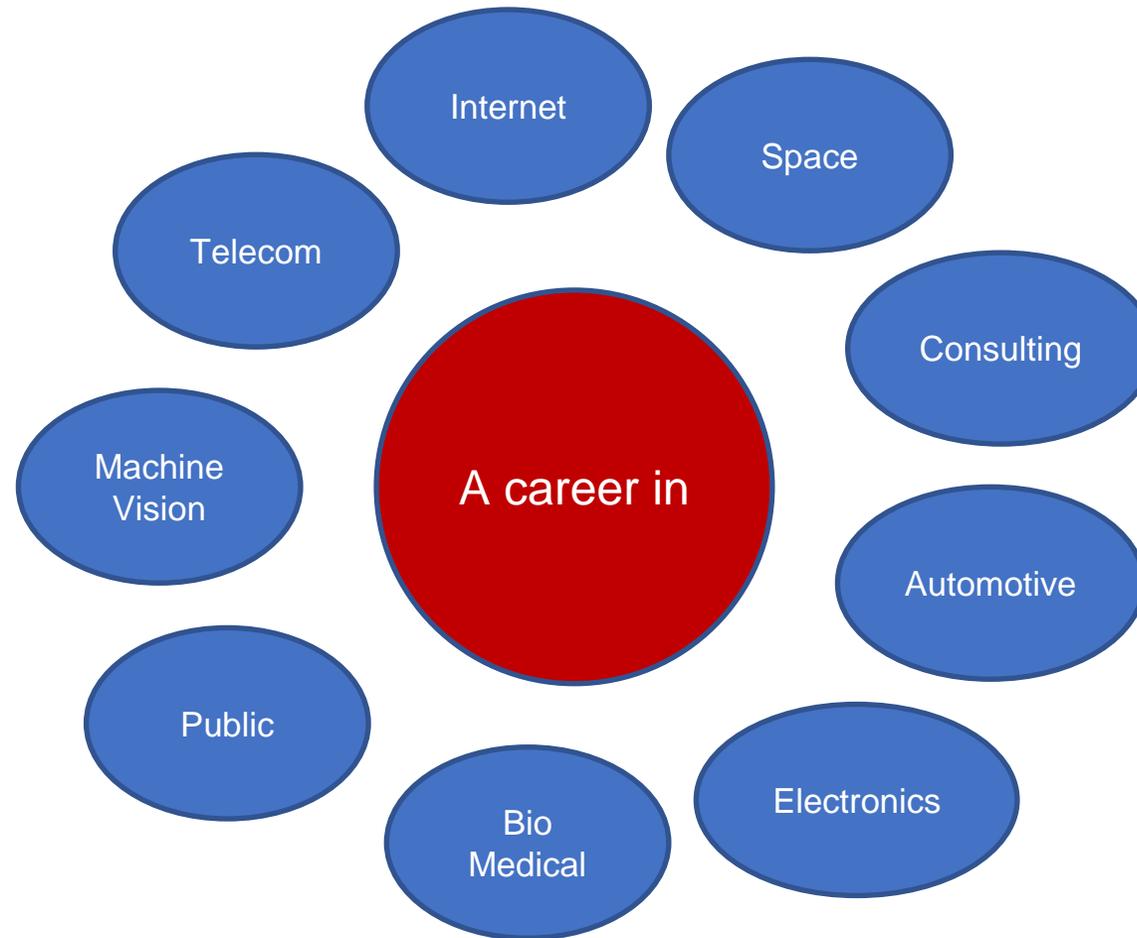
Specialization (30 CFU)

Free Choice (18 CFU)

Internship and Thesis (30 CFU)



LM Information Engineering – employment opportunities



**91% graduates
occupied with a
job in 1 year from
graduation**

Updated at 11/12/2024
source: AlmaLaurea



LM Information Engineering – employment opportunities

The skills acquired guarantee employability in a wide range of areas, including industry sector and research-oriented positions in institutes or academia.

A non-exhaustive list includes the following fields:

- companies in the areas of research and development, engineering, production and marketing of **products and services in the fields of telecommunications, networks, signal processing, electronics, information technology and biomedical engineering**
- companies operating in domains that need skills for the **development and use of communication systems and infrastructures and data and signal processing** to support internal organisation, production and marketing
- companies dealing with **design, supply and maintenance of services provided via telematic networks, sensor networks, distributed architectures and the Internet**
- companies **supplying structures and services for IT systems and networks**
- **research and development** centres, both public and private.





LM Information Engineering – enrollment

To be admitted to the two-year Master's degree in Information Engineering applicants need to have a **Bachelor degree** and to match **specific academic requirements**, including a minimum upper-intermediate level of English (**Level B2**).

There is **no longer a limited enrolment for EU citizens**.

Limitations apply **only** for non-EU.





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EIT Digital/Manufacturing Master Program

- There will be a dedicated info day some time in January/February
- 2-year (24 months) double degree Master program in two different universities
- EIT Digital Consortium composed of 22 universities all over Europe (9 countries)





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Technical majors, EIT Digital

AUTONOMOUS SYSTEMS

LEARN MORE

CLOUD AND NETWORK
INFRASTRUCTURE

LEARN MORE

CYBER SECURITY

LEARN MORE

DATA SCIENCE

LEARN MORE

DIGITAL MANUFACTURING

LEARN MORE

EMBEDDED SYSTEMS

LEARN MORE

FINTECH

LEARN MORE

HUMAN COMPUTER
INTERACTION AND DESIGN

LEARN MORE



LM Information Engineering - useful info and links

Giulia Boato

- giulia.boato@unitn.it [coordinator]

EDU DISI

- edu.disi@unitn.it [general inquiries about the course]

Supporto Studenti Povo

- supportostudentipovo@unitn.it [study plan, issues with Esse3]

Prof. Claudio Sacchi

- claudio.sacchi@unitn.it [variations in your study plan]

Master's degree webpage
(ENG)

Ordinamento (ITA)

Rules, regulations, and
manifesti (ENG/ITA)

