Master of Science in ROBOTICS

2-year program - 120 ECTS

Specific courses 11 ECTS
- Applied machine learning
- Basics of mobile robotics
- Model predictive control

Optional courses 39 ECTS
- Advanced control systems
- Advanced machine learning
- Advanced MEMS & microsystems
- Advanced satellite positioning
- Analyse de produits et systèmes
- Analysis and modeling of locomotion
- Artificial evolution
- Biomimic approaches to engineering
- Biomaterials
- Brain computer interaction
- Commande embarquée de moteurs
- Computational motor control
- Computer vision
- Conception mécanique intégrée
- Controlling behavior in animal and robots
- Distributed intelligent systems
- Embedded systems
- Flexible bioelectronics
- Flying robots
- Fundamentals of computer aided manufacturing
- Fundamentals of neuroengineering
- Haptic human robot interfaces
- Image analysis and pattern recognition
- Image processing I
- Image processing II
- Industrial automation
- Industry dynamics, models & trends
- Intelligent agents
- Legged robots
- Lifecycle performance of product systems
- Machine learning programming
- Mechanical product design and development
- Multi-body simulation
- Multivariable control and coordination systems
- Networked control systems
- Numerical methods in biomechanics
- Optimal decision making
- Organic and printed electronics
- Production management
- Real time embedded systems
- Real time networks
- Robotique industrielle et appliquée
- Sensorimotor neuroprosthetics
- Sensor orientation
- Sensors in medical instrumentation
- Signal processing for functional brain imaging
- Simulation and performance analysis in production
- System identification
- Systèmes mécatroniques

Projects 40 ECTS
- Robotics practicals
- Robotics project I
- Robotics project II
- Interdisciplinary project
- Project in human and social sciences

including an 8-week internship in industry

Possibility to follow a 30 ECTS Minor within the optional courses:
- Biomedical Technologies
- Computational Science & Engineering
- Energy
- Internet of Things
- Management, Technology and Entrepreneurship
- Photonics
- Science, Technology and Area Studies
- Space Technologies

School of Engineering
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