

Data Science, Multimedia & Telecom



TAUGHT IN FRENCH/ENGLISH

/ AIMS

The Data Science, Multimedia & Telecoms major aims at training ESEO engineers in electronics and computer science in the field of artificial intelligence with deep learning and machine learning, as well as signal processing – real time and post-processing – for audio, image, video and data transmission. The targeted fields for future engineers in the Data Science, Multimedia and Telecoms major are Telecommunications, Artificial Intelligence, Multimedia, Industrial Vision, Signal/Image Processing, Software-Defined-Radio and Telecoms.

/ ACQUIRED SKILLS

This multi-disciplinary major is based on the school's traditional skills and expertise in electronics, embedded systems, signal and image processing as well as AI. A solid grounding is also provided in the fields of Multimedia and Telecoms.

Theoretical tools such as Signal and Image Processing, Optimisation, Neural Networks, Statistics, Data Science, Machine Learning / Deep Learning Technologies such as Digital Electronics (GPU, FPGA, DSP...), Sensors and Instrumentation Languages such as NI Lab VIEW, Python, CUDA, Matlab/Simulink

/ CAREER OPPORTUNITIES

The training provided is in constant evolution in order to meet the requirements of companies in a wide variety of fields involving data processing, such as:

- Artificial intelligence (machine learning and deep learning)
- Image, video, sound, digital television, multimedia
- Aeronautics and aerospace
- Telecommunications
- Electronics and IT
- Embedded systems
- Measurement and instrumentation
- Biomedical engineering
- Academic and industrial research

COURSE UNITS

/ SEMESTER 8

- **DSMT Project:** 84 hrs – 7.5 ECTS
- **Signal Processing:** 84 hrs – 7.5 ECTS
- **Image and Video Processing:**
56 hrs – 5 ECTS
- **Tomography:**
28 hrs – 2.5 ECTS (BIO)
- **Relational Databases:**
28 hrs – 2.5 ECTS
- **English:** 28 hrs – 2.5 ECTS
- **Transversal Skills:**
28 hrs – 2.5 ECTS

/ SEMESTER 9

- **Final Year Project:**
224 hrs - 18 ECTS
- **Signal Process applied to Financial Field:** 28 hrs - 2 ECTS
- **Optimal Wiener and Kalman Filtering and Adaptive Filtering:**
28 hrs - 2 ECTS
- **Real Time Audio Effects:**
28 hrs - 2 ECTS
- **Data Science 2:** 28 hrs - 2 ECTS
- **Deep Learning:** 28 hrs - 2 ECTS
- **Antennas & Systems:**
28 hrs - 2 ECTS

