



# Information Systems Signal, Image and Computer Vision

at Télécom Paris

## KEYWORDS

Signal processing, audio signal, image processing, image interpretation, computer vision, multimedia

## OBJECTIVES

This program is designed for graduate students who desire to acquire knowledge and skills in advanced techniques for signal processing, image processing and computer vision. It covers all aspects of these domains through its options and answers a real demand from industry and research as well.

## ENVIRONMENT

Signal and image processing constitutes an important part of new Information technologies. Its techniques are used in many different fields such as digital communications, speech processing, time series analysis, medical imaging, remote sensing, industrial control, video applications...

Telecom Paris provides a unique course in these domains, from which the

Master of Science will directly benefit. Its signal and image processing department includes 45 faculty members and 50 PhD. It has an international recognition for its important research activity.

## BACKGROUND

A good background in mathematics and computer science is required. Good programming skills are needed. Basic knowledge in signal processing is recommended.

## PROGRAM

The program includes courses over 3 quarters and internship (1 semester) with industry or in a research laboratory, providing either an industrial or a research practical experience.

Core courses are taught in English in the fall quarter and subsequent courses related to the chosen option are taught in French.

Core courses include signal processing, mathematics, a programming project.

The proposed options are the following:

- Multimedia (image, video and audio):  
Compression, watermarking, audio signal processing, video, speech and music.
- Image processing and computer vision:  
Digital image processing, image interpretation, computer vision, pattern recognition, fusion.
- Statistical signal processing:  
advanced signal processing, statistics.

Core courses include also humanities, economics and international management, and French language & culture.

## TELECOM PARIS

Télécom Paris was founded more than a hundred years ago and is classed among the Grandes Écoles d'Ingénieurs. Because of its high scientific standard and the extremely competitive admission procedures, Télécom Paris can be compared to the highest level engineering schools and universities that one would find abroad.

Télécom Paris today has a faculty of about 150 full-time staff (full professors, associate and assistant professors), over 200 part-time lecturers and a student body of about 1000 students (including 750 in the three-year diploma program, and more than 200 PhD students. Télécom Paris's four departments carry out research and teaching activities in the school's central areas of expertise:

- Department of Communications and Electronics (Comelec).
- Department of Computer Science and Networks (Infres).
- Department of Signal and Image Processing (TSI).
- Department of Economics and Social Sciences (EGSH).

## LOCATION

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Télécom Paris is located in the southern part of Paris, home to headquarters of major companies and near a very picturesque area called the "Butte aux Cailles".

## ENTRY REQUIREMENTS

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Entry requirements include a four-year degree in the engineering fields covered by the Master program of Télécom Paris.

## LANGUAGE PROFICIENCY

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**English:** when applying, students must provide evidence of proficiency in the English language. This could include:

- having English as your mother tongue;

- studies in an English-speaking country;
- acquisition of an English Language qualification (TOEFL: 550 / IELTS: 5.5 / TOEIC: 750 / Cambridge CAE).

**French:** when applying, applicants for the Master in Signal, Image and Computer Vision are required to have the TEF II level or equivalent (pre-intermediate) as a minimum.

*Nota: The program includes French courses for pre-intermediate and advanced level students throughout the whole program.*

## WEBSITE

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[http://www.enst.fr/en/post\\_graduate/msci/si\\_cv.php](http://www.enst.fr/en/post_graduate/msci/si_cv.php)