

# Master's degree in Computer Vision

The **master's degree in Computer Vision** ([master's degree website](#)), coordinated by the **Universitat Autònoma de Barcelona** and with the **UPC as a participant**, investigates the techniques and mathematical models that are used to computationally simulate the visual tasks performed by the human visual system, based on one or more digital images. This research area has been growing exponentially since the 1980s due to the great complexity of the problem. Today, it is an important field of research in computer science, mathematics, physics and engineering in general. In the last decade, progress in this area has been huge, for several reasons:

- Results in the development of low-cost, high-performance cameras.
- The introduction of these cameras in many areas of daily life and their incorporation in many mobile devices.
- The development of computational learning techniques that have improved the efficiency of algorithms that automatically extract information from images.
- The possibility of access to huge databases of images on the Internet.

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## GENERAL DETAILS

### Duration and start date

One academic year, 60 ECTS credits. Starting September

### Timetable and delivery

Afternoons. Face-to-face

### Language of instruction

English

Information on [language use in the classroom and students' language rights](#).

### Official degree

[Recorded in the Ministry of Education's degree register](#)

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## ADMISSION

### General requirements

[Academic requirements for admission to master's degrees](#)

### Places

25

### Pre-enrolment

To enrol for an interuniversity master's degree coordinated by a university other than the UPC, you must enrol through the coordinating university:

[Universitat Autònoma de Barcelona \(UAB\)](#)

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## PROFESSIONAL OPPORTUNITIES

### Professional opportunities

This master's degree will provide a profile with skills and expertise applicable to multiple fields. Computer vision is a discipline that allows rapid applicability of all theoretical knowledge, providing a cross-disciplinary engineering profile that allows them to work on multiple systems of applications such as retrieving images by content, interpreting and automatically annotating videos, extracting three-dimensional information from multiple views and improving the appearance of image content. This field of technology requires professionals with a high level of training and scientific interest in it is growing rapidly.

## Competencies

### Generic competencies

Generic competencies are the skills that graduates acquire regardless of the specific course or field of study. The generic competencies established by the UPC are capacity for innovation and entrepreneurship, sustainability and social commitment, knowledge of a foreign language (preferably English), teamwork and proper use of information resources.

### Specific competences

- Graduates will be able to identify key concepts and apply the most suitable basic techniques to solve problems arising in the field of computer vision.
- They will have developed the skills to devise alternative solutions to complex vision problems and to create prototypes to demonstrate the validity of the systems proposed.
- They will have acquired the knowledge to select the most suitable software tools and training setups for developing solutions to problems arising in the field of computer vision.
- They will have learnt to plan, implement, manage and evaluate projects addressing specific problems in different areas of computer vision.
- They will be able to define in detail and correctly apply the technology transfer process for innovation in the field of computer vision.
- They will know how to apply the correct research methodology, select the appropriate techniques and information sources, and organise specific resources for research in the field of computer vision.

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## ORGANISATION: ACADEMIC CALENDAR AND REGULATIONS

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### UPC school

[Barcelona School of Telecommunications Engineering \(ETSETB\)](#)

### Participating institutions

[Universitat Politècnica de Catalunya \(UPC\)](#)

[Universitat Autònoma de Barcelona \(UAB\)](#) - **coordinating** university

[Universitat de Barcelona \(UB\)](#)

[Universitat Oberta de Catalunya \(UOC\)](#)

[Universitat Pompeu Fabra \(UPF\)](#)

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## CURRICULUM

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