Computer and Machine Vision option - MSc in Computational and Software Techniques in Engineering

www.cranfield.ac.uk/CompAndMachineVision

Machine vision technology is transforming industries by enabling systems to interpret and analyse visual data in real time, powering everything from autonomous vehicles and drones to advanced medical diagnostics and industrial automation.

As demand for intelligent image and signal processing systems grows, you will gain the skills to create impactful solutions that operate seamlessly across mobile devices, embedded systems and workstations, shaping the future of technology and its applications worldwide.

This specialist option of the Computational and Software Techniques in Engineering MSc focuses on developing a robust skill set tailored to the rapidly-expanding global engineering and IT sectors. You will be well-positioned to pursue diverse careers in industries such as telecommunications, automotive, medical imaging, software development and industrial research, where the need for skilled professionals is soaring.

This MSc is highly regarded by companies worldwide, who actively seek graduates with expertise in software development and advanced programming skills in industry-standard languages and tools. To ensure relevance and practical application, the course is guided by an industrial advisory Ppnel. This ensures that the curriculum stays current with industry needs, combining hands-on experience with cutting-edge knowledge to prepare students for a wide range of real-world applications.

Who is it for?

Developed for students interested in software development within the wide spectrum of industries in which digital signal processing and/or digital image processing plays a significant role. Suitable for candidates from a broad range of engineering backgrounds, including aeronautical, automotive, mechanical and electrical engineering, in addition to the more traditional computational sciences background, who wish to both develop and complement their existing skill set in this new area. Part-time students have a flexible commencement date.

Your career

The Computer and Machine Vision MSc attracts enquiries from companies all over the world who wish to recruit high-quality graduates. There is considerable demand for students with expertise in engineering software development and for those who have strong technical programming skills in industry-standard languages and tools. Graduates of this course will be in demand by commercial engineering software developers, automotive, telecommunications, medical and other industries and research organisations.

Overview

Start date
September

Duration
One year full-time, two-three years part-time

Qualification
MSc

Study type
Full-time / part-time

Structure
Taught modules 40%, group project 20%, individual research project 40%

Campus
Cranfield campus

Entry requirements
We welcome applications from talented individuals of all backgrounds and each application is considered on its individual merit. Usually, applicants must hold:

A UK lower second-class (2:2) undergraduate degree with honours, as a minimum, or equivalent international qualification.

Ideally, applicants will have studied in applied mathematics, aeronautical, mechanical or electrical engineering or a computer science discipline.

Find information about equivalent qualifications in your country on our International entry requirements page.

Fees

Please see **www.cranfield.ac.uk/fees** for detailed information about fee status, full-time and part-time fees as well as deposit requirements and bursary and scholarship information.

Course details

Modules

Keeping our courses up-to-date and current requires constant innovation and change. The modules we offer reflect the needs of business and industry and the research interests of our staff. As a result, they may change or be withdrawn due to research developments, legislation changes or for a variety of other reasons. Changes may also be designed to improve the student learning experience or to respond to feedback from students, external examiners, accreditation bodies and industrial advisory panels.

To give you a taster, we have listed below the compulsory and elective (where applicable) modules which are currently affiliated with this course. All modules are indicative only, and may be subject to change for your year of entry

Compulsory modules

All the modules in the following list need to be taken as part of this course.

Computational Methods

C++ Programming

Signal Analysis

Digital Signal Processing

Image Processing and Analysis

Computer Vision

Management for Technology

Machine Learning for Computer Vision

Visualisation

Applications of Computer Vision

"While studying civil engineering, I believed that digitalisation is the future of the construction industry and decided to pursue a MSc related to computer and machine vision. This Cranfield course offered me a valuable opportunity to learn the latest artificial intelligence techniques. This well-arranged modules, high-quality course content and industry-oriented research projects helped me develop fast. The fact that Cranfield is highly ranked guarantees the best education and research."

Zijian Wang
Marie Sklodowska-Curie Early-stage Researcher, Computational and Software Techniques in Engineering MSc

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