

COURSE DETAIL

APPLIED COMPUTER VISION

Country

Germany

Host Institution

Technical University Berlin

Program(s)

Technical University Berlin

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Computer Science

UCEAP Course Number

130

UCEAP Course Suffix

A

UCEAP Official Title

APPLIED COMPUTER VISION

UCEAP Transcript Title

APPLIED COMP VISION

UCEAP Quarter Units

5.50

UCEAP Semester Units

3.70

Course Description

The course's goal is to enable participants to acquire and process digital images in technical applications in a context-aware manner. The course introduces the basics of digital image processing, the acquisition of images in computing environments, and the extraction of semantic contents from the images. The goal of the course is the exemplary coverage of an interdisciplinary breadth, not necessarily an in-depth treatment of a specific domain. Fundamentals like sensor calibration, feature detection (e.g. edge extraction), matching and classification are taught. Integrated practical exercises cover operating a camera from a single-board computer and using a smartphone camera in a computer vision setting. Furthermore, exemplary machine learning approaches are used for “understanding” the images acquired previously. Software to be developed make use of the OpenCV Python library.

Language(s) of Instruction

English

Host Institution Course Number

0433 L 171

Host Institution Course Title

APPLIED COMPUTER VISION

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department

Institut für Technische Informatik und Mikroelektronik

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