

COURSE DETAIL

INTRODUCTION TO CAMERA GEOMETRY

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

135

UCEAP Course Suffix**UCEAP Official Title**

INTRODUCTION TO CAMERA GEOMETRY

UCEAP Transcript Title

CAMERA GEOMETRY

UCEAP Quarter Units

4.50

UCEAP Semester Units

3.00

Course Description

The course is an introduction to the geometry of the image formation process and how visual data is represented and manipulated in a computer. Students learn projective geometry, which helps model the perspective projection, and digital image processing. Topics include how to model the perspective operation that happens when a picture is taken (projective geometry, image formation process), how pictures (visual data) are represented and processed in a computer (digital image processing), how to find out the internal geometric parameters of a camera (camera calibration), and what applications camera technology has in robotics (stereopsis, visual odometry, AR/VR, etc.).

Language(s) of Instruction

English

Host Institution Course Number

41060

Host Institution Course Title

INTRODUCTION TO CAMERA GEOMETRY

Host Institution Course Details

<https://moseskonto.tu-berlin.de/moses/modultransfersystem/bolognamodule/beschre...>

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department

Institut für Technische Informatik und Mikroelektronik

Course Last Reviewed

2024-2025

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