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 Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department
Institut für Technische Informatik und Mikroelektronik

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