LEHRSTUHL FÜR
MUSTER-
ERKENNUNG

FRIEDRICH-ALEXANDER
UNIVERSITÄT
ERLANGEN-NÜRNBERG
TECHNISCHE FAKULTÄT

Computer Vision

The goal of this master project is to build state-of-the-art software for different advanced topics in computer vision. During the project you will learn about basic image processing methods, the foundations of projective geometry, 3D cameras, super-resolution, tracking, feature detection and classification.

The project is designed to be completed in two parts:

I) All participants will create basic tools for certain computer vision applications. Each topic will be developed in a group. The following topics will be taught and implemented during the first part:

- Basic image processing of grayscale and distance images
- Projective geometry, pinhole camera and calibration
- Stereo vision and RGB-D imaging
- Super resolution
- Image retrieval / Image classification

II) Each participant will implement a method which belongs to one of the aforementioned topics. Evaluation data for evaluating your implementations will be provided.

Credits

- Computer Science: 10 ECTS Master Project – Part I and II
- Medical Engineering: 5 / 10 ECTS Research Laboratory (Hochschul- / Forschungspraktikum) – Part I and Part II (optional)

Requirements

Basic knowledge of image processing is desirable. Having visited lectures such as Introduction to Pattern Recognition (IntroPR) or Diagnostic Medical Image Processing (DMIP) is beneficial.

First Meeting / Lecture

Monday, 11. April, 12:00 - 14:00, Room 01.134, Martensstraße 3

Contact and Further Information

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