Ostfalia
University of
Applied Sciences
- Computer Science Faculty -

International Lecture*

November 28th – December 2nd 2022

Monday, November 28 to Wednesday, November 30th.

Robotic Exploration and Data Collection Planning

In a series of lectures, the students will be acquainted a notion with robotic information gathering and necessary basic algorithms for data collection planning. The course will provide an overview of basic building blocks for autonomous robotic exploration consisting of environment representation using occupancy grid map, grid and graph-based path planning methods, and exploration strategies suitable for online decision-making. Besides, the course will also tackle robotic routing problems suitable for data collection planning that can exploit non-zero sensing range in visual inspection and surveillance scenarios.

Prof.Dr.-Ing. Jan Faigl, Czech Technical University in Prague, Tschechische Republik.

Starting Monday, November 28th, 09:00, Kaminzimmer.

Wednesday, November 30th to Friday, December 2nd.

Design and control an anthropomorphic gripper

In this series of lectures, students will design and control a robot gripper. This program covers: theory of operation of servo motors and their control via Arduino, using current and distance sensors with Arduino, digital PID control - Position vs Force, PID force control of servo motor using current base estimation, grasping of soft objects with robot gripper. There will also be a presentation of grippers from Seed Robotics.

Marco Prata, Hardware scientist, co-founder Seed Robotics , Lisbon Portugal.

www.seedrobotics.com

Starting Wednesday, November 30th, 14:00, Kaminzimmer.

* Internationale Vorlesungen - können als Wahlpflichtvorlesungen mit 2,5 Credits anerkannt werden.
Eine Anmeldung ist nicht erforderlich – gehen Sie einfach hin.

Prof. Reinhard Gerndt, 2022