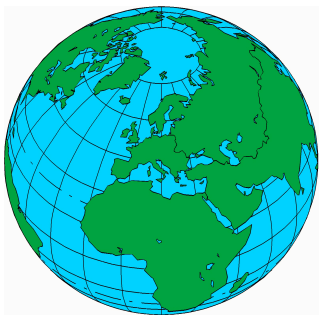

Ostfalia
University of Applied Sciences
- Computer Science Faculty -

International Lectures*

25 November – 29 November 2013

Interactive Robotics

Igor Zubrycki, Lodz University of Technology, Poland

Introduction to Human-Robot interaction, creating human-centric, intuitive and comfortable operating environments for control and cooperation with robots. Learn about situations where good design of interaction is essential for the success of robots - such as robots used to work with children or rehabilitation robots.
The practical part of workshop starts with explaining how to efficiently prototype robotic interfaces, first using low fidelity stories drawn on paper and paper prototypes, then with real robots using Arduino and Processing.
The task is to design an interface for some activity with e.g. a gaming robot, a guardian robot or a racing robot etc. The interface must be straightforward enough so that members of other teams can use it without long explanation. To accomplish the task students are given a robot, computer with software and Android device. They can modify examples to create interfaces that use Bluetooth, Accelerometers, Touch interfaces and so on. The workshop ends with students' presentations where each team explains their design, demonstrates interface and answers questions about intended functionality and users and walks through the design process they used.

Starting Monday, 25 November, 09:00, Room 127 (changing to room 203 later)

Introduction to Object Recognition in Images

Philippe Joly, Université Paul Sabatier Toulouse III, France

This lecture will present typical tools of image processing aiming at detecting various kind of objects from a practical point of view. We will introduce :

- color-based segmentation of objects using quantization algorithms
- shape-based objects identification in binary images using the Generalized Hough Transform
- Matching shape of objects with the Distance Transform
- Object detection using points of interest and Scale Invariant Feature Transform (SIFT)
- Face detection using decision trees

Those tools will be illustrated during practical sessions using Matlab and the OpenCV toolbox.

Starting Wednesday, 27 November, 14:15, Room 203

Ein Semester in Polen, Frankreich, ...

Informationsveranstaltung zum Informatik-Auslandssemester

Mittwoch, 27. November, 12:00, Room 127

* Internationale Vorlesungen - können als Wahlpflichtvorlesungen mit je 2 SWS bzw. 2,5 Credits anerkannt werden.

Prof. Reinhard Gerndt, 2013