Advanced Sensory Systems and Networks (6062-M)   5 ECTS

Lecturer: **P. Podržaj**

Lectures: 30h | Tutorials: 4h | Labs: 26h | Project: 0h | Lang. :

Objectives

The objectives of this course are:
- Develop the capability of designing of advanced sensory systems and networks.
- Develop the capability to transfer the theoretical knowledge to real systems.
- Develop the capability to use various software packages and programming languages related to advanced sensory systems and networks.

Programme

1. The basics of digital image processing
2. Point processing
3. Neighbourhood processing
4. Advanced algorithms
5. Machine vision
6. Application of Python for machine vision
7. Nonconventional sensors
8. Fuzzy logic
9. Neural networks
10. Sensor fusion
11. Internet
12. Web programming
13. Servers
14. Security
15. Programming of IoT applications

Prerequisites

In order to successfully achieve this course, the students are expected to:
- Have basic experience with programming in at least one programming language.

Learning outcomes

After attending this course, the student will obtain the following knowledge/skills:
- Deeper theoretical, methodological and analytical knowledge of advanced sensory system and networks.
- Mastering very demanding and complex mathematical procedures for advanced sensory systems and networks.
- Ability of unique innovations in the field of advanced sensory systems and networks

Assessment

Project

Literature

1. Thomas B. Moeslund: Introduction to Video and Image Processing, Springer, 2012
2. Ali Zilouchian: Intelligent Control Systems Using Soft Computing Methodologies, CRC Press, 2001
3. Deep Medhi: Network Routing: Algorithms, Protocols, and Architectures, Morgan Kaufmann, 2018