Seminar program

Time	Activity
12:30 – 13:00	Registration and coffee/tea
13:00 – 13:15	*Opening and welcome* Prof. Ole Ravn (DTU) and Christina E. Wanscher (Odense Robotics)
13:15 – 14:00	*Perception and Machine Learning for Self-Sufficient Autonomous Robots* Assoc. Prof. Evangelos Boukas (DTU)
14:00 – 14:45	*Object detection and tracking for perception at sea* Prof. Mogens Blanke (DTU) and Ph.D. candidate Frederik T. Schöller (DTU)
14:45 – 15:15	Coffee break and networking
15:15 – 16:00	*The GALIRUMI EU project and the role of robotics in sustainable agriculture* Assoc. Prof. Lazaros Nalpantidis (DTU)
16:00 – 16:15	*Closing remarks* Prof. Ole Ravn
16:15 – 17:30	Networking with refreshments

Evangelos Boukas

Perception and Machine Learning for Self-Sufficient Autonomous Robots

Abstract - Autonomous systems relying on external information and assistance have been employed in the past. When it comes to developing self-sufficient robots, high-level perception and machine learning is required. In the case of autonomous robots, they should be able to extract 3D as well as semantic information about the environment, to operate without external assistance.

Bio sketch - Evangelos Boukas is an Associate Professor of Perception and Machine Learning for Perception in the Department of Electrical Engineering, Technical University of Denmark (DTU). Following his PhD studies associated with the Automation and Robotics Section (TEC-MMA) of the European Space Agency, he served as an assistant/associate professor of robotics at Aalborg University

Mogens Blanke & Frederik T. Schöller

Object detection and tracking for perception at sea

Abstract - This presentation shows how methods from machine learning are employed to fit the purpose of object detection at sea. Spectral range detection is investigated in visible, near infrared and long wave infrared wavelengths. Novel ideas in visual object tracking are presented and a new approach is introduced for buoy identification at nighttime using the buoys unique blink sequences.

Bio sketch - Mogens Blanke is DTU Professor in Automation and Control and leads the ShippingLab activity on Autonomy for marine vehicles. He was professor at AAU, Aalborg with the Ørsted Satellite control system as a major achievement. Earlier positions included DTU, ESTEC and Head of Lyngsø Marine Division. Contributions to fault-tolerant control systems, diagnosis and to Marine Control are internationally recognized. Frederik T. Schöller is a Ph.D. candidate in the ShippingLab – Autonomy research program.

Lazaros Nalpantidis

The GALIRUMI EU project and the role of robotics in sustainable agriculture

Abstract - In this talk, I will present the EU funded project GALIRUMI and explain how Galileo localization and advanced computer vision can support robots in agricultural tasks. I will then discuss some of the challenges that such technologies face, focusing on the visual perception and present results from our research towards addressing those challenges.

Bio sketch - Lazaros Nalpantidis is Associate Professor of autonomous systems and robotics in the Department of Electrical Engineering, Technical University of Denmark (DTU). Before, he was Associate Professor of Cognitive Robotics at Aalborg University Copenhagen, Denmark, where he also served as Head of Section for Sustainable Production within the Department for Materials and Production.