Robotics & Autonomous Driving Systems

20. July 2021 / 12:15-15:30h

UA RUHR

Learn about the design of industrial robots and the development of autonomous driving systems with MATLAB & Simulink.

Register here

Highlights

- Co-simulation of Simulink with Gazebo and Unreal Engine
- Create 3D scenes with RoadRunner
- Path planning with obstacle avoidance

AGENDA

12:15-13:30h

Part 1: How to design industrial robots with MATLAB & Simulink

- ❑ Introduction to applying MATLAB & Simulink in autonomous systems workflows
- ❑ Case study: Pick and place manipulation application
  - Perception algorithm using Deep Learning
  - Supervisory logic and control using Stateflow & Reinforcement Learning
  - ROS node generation

13:45-15:30h

Part 2: Autonomous driving systems development with MATLAB & Simulink

- ❑ What's new in MATLAB & Simulink for autonomous driving
  - Driving scenarios – analysis and simulation
  - Algorithms for perception, planning and control
  - Integration and testing of autonomous driving systems
- ❑ Case study: Highway lane change & highway lane following application

***Who should attend**: This seminar is designed for graduate students in the field of robotics and automotive systems at the University Alliance Ruhr*

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