

## CYBER-PHYSICAL SYSTEMS

### MODULES IN THE 2ND SEMESTER

Choose 2 elective modules from the track Cyber-Physical Systems:

#### **Embedded Control:**

- Design of Real-Time Embedded Systems
- Nonlinear Systems Analysis and Control
- Sensors and Actuators
- Overview of State-Of-The-Art Control Strategies
- Minor Projects

#### **Advanced Vehicle Dynamics:**

- Modeling, Simulation and Testing
- Comfort, Road Holding and Handling
- Passenger Cars, Articulated Vehicles, Motorcycles, Driver Modeling
- Minor Project

[Watch the video about the module Advanced Vehicle Dynamics](#)

#### **Big Data & Small Data:**

- Data Collecting, Exploration and Preprocessing for Machine Learning
- Machine Learning
- System Identification
- State and Parameter Estimation
- Advanced Modeling (Minor Project)

[Watch the video about the module Big Data & Small Data](#)

#### **Intelligent Mobility:**

- Evolving Mobility Needs
- Sensor Technologies & Environmental Perception
- Data Processing Technologies
- Communication Technologies
- Supporting Infrastructure Technologies
- Human Behavior & Engineering Ethics
- Minor Project

*Please note: Advanced Vehicle Dynamics and Intelligent Mobility can only be combined within the Automotive Systems track.*