



Course number: EIM 21010
Multi Sensor Data Fusion
Study Level: Master / Graduate
Prerequisite: Previous Bachelor's degree

Prof. Dr. Johannes Reuter
Language of instruction: English
ECTS Credits: 6

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Nowadays, connected sensing devices are ubiquitous in e.g. cars, homes or smartphones. They provide an interface between the physical and the virtual world. They collect measurement data such as temperatures, distances, velocities, locations etc. These data naturally are error prone and just reflect a particular portion of the information of interest. Therefore, it is necessary to fuse and filter those measurement data and combine it with context knowledge in order to extract the information of interest with the desired level of certainty. This process is called Data Fusion.

The course provides an in depth introduction to the most common methods. As practical examples applications from areas like driver assistant systems, autonomous vehicles (ground and maritime) as well as robotics are discussed.

The course comprises of 2h lecture and 2h simulation exercise part. It should enable students to select appropriate data fusion schemes subject to the application requirements, to implement the most common methods and to critically reflect the results. Assessment of this course is based on a final oral examination.