



## Bachelor Thesis / Master Thesis

### Start: from now

- ☒ Faculty 1 - Mathematics, Computer Science and Natural Sciences
- ☒ Faculty 4 - Mechanical Engineering
- ☒ Faculty 6 - Electrical Engineering and Information Technology

### Control-oriented model identification of nonlinear systems using machine learning methods.

Nonlinear systems pose high demands on controllers due to a variety of input and output variables. Often, a reduction in dimensions is required to perform a control-oriented model identification of the system. In this work, approaches to dimension reduction, such as Principle Component Analysis, will be applied to experimental data. After reducing the number of input variables, a controller will be developed and experimentally validated.

#### Your tasks:

- Literature research, concept development, data analysis
- Experimental validation of approaches

#### Your competences:

- Interest in data science and machine learning
- High motivation to grasp and apply new knowledge

#### Your benefits:

- Familiarization with the latest tools
- Work in an international research project
- Intensive supervision
- Opportunity to work on publications

### Would you like to know more?

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