Bachelor/Master Theses
Student Research Projects

At the Intersection of Machine Learning, Mechanics and Uncertainty Quantification.

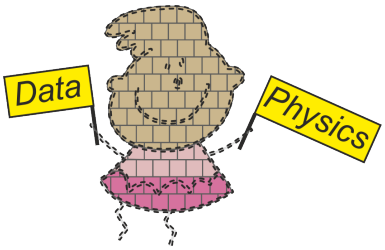
We are offering motivated students challenging Bachelor/Master theses or student research projects at the exciting intersection of engineering and continuum mechanics, machine learning and uncertainty quantification. As our field advances quickly, we do not maintain a list of thesis projects but determine these topics on demand.

You need to have a solid math and programming background and prior experience in machine learning, engineering and/or continuum solid mechanics as well as probability theory.

The following courses are relevant for the subjects and attending one or several of them is recommended:

- continuum solid mechanics
- finite element method
- data-driven material modeling
- machine learning / neural networks
- uncertainty quantification

Reality



Digital Twin

A list of possible research directions:

- data-driven material modeling
- forward and inverse problems including uncertainty
- physics informed neural networks for mechanical problems
- machine learning in micromechanics of heterogeneous materials

Contact:
Please email ddm-office@tu-braunschweig.de

Institute for Applied Mechanics
Data-driven modeling of mechanical systems

Technische Universität Braunschweig