Department of Aerospace and Geodesy
TUM School of Engineering and Design
Technical University of Munich

Practical Research Course / Engineering Project at the Chair of Aerospace Structure Design:

Advanced Object-Oriented Python Programming

At the Chair of Aerospace Structure Design several programming interfaces are under current development. These interfaces are realised in the language Python and represent toolchains used for structural analysis, FE simulation, as well as organisational and administrative tasks in research and teaching.

One or more students with solid Python experience are searched for the further code development within a student project.

The project work will contain:
- Familiarisation with the current code architecture and requirements
- Development of concepts for new procedures
- Research and choice of sufficient open-source packages
- Self-responsible coordination of the programming work
- Strong communication with all persons involved and the chair
- Maintenance of the respective repositories
- Careful Documentation of the code functionality
- Presentation of the final approach

Start: Dec 2025
Duration: 4-6 months
Scope of work: Project course, e.g.
- M.Sc.Aerospace/M.Sc.Maschinenwesen: [LRG0003]/[ED100042] *Practical Research Course*
                        or [LRG0004]/[ED100041] *Team Project*
- B.Sc.Aerospace: [LRG0202] *Engineering Project*

Working hours: flexible, weekly meetings
Location: Campus Ottobrunn and remote
Requirements:
- great interest in programming
- willingness to work and communicate in a team
- solid experience in Object-Oriented Python programming
- experience with the version control system Git
- high motivation to intensify various concerning topics

Beneficial experience:
- FEM simulation
- Structural mechanics

Applications may be sent to niklas.moser@tum.de as long as the vacancy is announced on the chair's webpage.