



Student assistant (60 hours per month)

Faculty V - Mechanical Engineering and Transport Systems, Institut für Strömungsmechanik und Technische Akustik

Reference number: V-SB-0093-2025 (starting at the earliest possible / 01.01.2025-31.12.2027 / closing date for applications 30/09/25)

Your responsibility:

At the institute of fluid mechanics and technical acoustics (ISTA) of TU Berlin, a Python-based FEM program has been developed, which simulates flows around components, analyzes acoustic instabilities in the flow and can also be used for shape optimization of components. The position offers the opportunity to gain practical experience in FEM, PDE, Shape Optimization, and Optimization Algorithms as well as combustion. In this field of study, the advertised position includes the following supportive activities under supervision:

1. Support in running simulations with the newly developed code. (33%)
2. Support in performing validation calculations using established CFD codes (e.g., OpenFOAM) or benchmark problems. (33%)
3. Support in coding and development of the in-house CFD code. (34%)

Your profile:

Must criteria:

M1: Good knowledge of numerical analysis in fluid mechanics

M2: Very good programming experience or one of the following languages: Python, C++, C, or Fortran

M3: Good proficiency in German and/or English; willingness to acquire the necessary language skills as needed

Can criteria

K1: Good experience with object-oriented programming

K2: Strong background in Python

K3: Good experience with CFD (Computational Fluid Dynamics)

K4: Basic experience with Finite Element methods

K5: Enthusiasm for classes like CFD, numerical mathematics, numerical simulation techniques in engineering, fundamentals of continuum theory, variational calculus, and optimal control

K6: The student assistant has the opportunity to apply the theoretical knowledge acquired in lectures on CFD and/or numerical methods in practice.

How to apply:

Party responsible for specialist area / point of contact for job posting: Anant Talasikar

Period of employment: 01.01.2025-31.12.2027

Apply to: office@hfi.tu-berlin.de

Please submit your written application including cover letter, your CV, certificate of enrollment, and where applicable, current transcript of records, with the reference number to the place of employment indicated above.

In the interest of promoting equality opportunities for men and women, applications from women with suitable qualifications are particularly encouraged.

The vacancy is also available on the internet at:

<https://www.jobs.tu-berlin.de>

