

We are currently searching for a

Student Assistant (HiWi): Learning Platform for Discrete Mathematics: AI Integration & Automated Task Generation (6h/week)

About us

We, the Chair of Electronic Design Automation at the School of Computation, Information and Technology of TUM, are developing a new web-based learning and practice platform to help students deepen their understanding of the core topics of our Discrete Mathematics for Engineers (DMI) course. Our plans for the platform include:

- Automatically generated exercise and exam-style tasks (e.g., Resolution Method, Warshall-Algorithm)
- Automatic checking of solutions or the generation of sample solutions
- Live in-lecture questions for activation and quick knowledge assessment, including visualization of the results for the lecturer.

Beyond the core platform, we aim to explore and integrate machine-learning or generative AI methods to enable or improve:

- Detection and explanation of typical student errors
- Difficulty estimation of practice problems based on task features and student feedback
- Generation of practice problems that might be hard to generate programmatically, in conjunction with strict sanity-checking to ensure correctness of generated tasks and sample solutions

Your role focuses on developing and evaluating AI-based components and integrating them into the platform, which will be built simultaneously by another student.

Required Qualifications

- Strong interest in AI, machine learning, or generative models
- Programming experience in Python or other appropriate languages (ML libraries such as PyTorch, TensorFlow)
- Basic knowledge of algorithms, logic, or discrete mathematics
- Ability to work with structured and unstructured data
- Self-driven, curious mindset and willingness to explore new ideas utilizing AI for our learning platform
- Interest in building user-facing educational tools

Beneficial Qualifications

- Experience with LLMs, prompt engineering, or reliability evaluation of generative models
- Participation in the DMI course in previous semesters
- Experience with open-source development (Git, documentation workflows)

Your Tasks

- Explore suitable generative AI methods, e.g., for task creation (with correctness safeguards)
- Implement systems to detect typical student errors using ML techniques
- Prototype AI-based correctness checks for more complex tasks
- Design a system to collect and evaluate student difficulty ratings
- Develop an ML model that predicts task difficulty based on structural task features
- Collaborate closely with another student assistant working on the underlying learning platform
- Document experiments, methodologies, and findings for future extensions

We offer

- A fixed-term “studentische Hilfskraft” position of 84 hours over the course of the summer semester 2026 (14 * 6h/week preferred, other arrangements can be negotiated)
- The work can be carried out in-person or remotely

- TUM aims to increase the proportion of women; therefore, applications from women are expressly welcomed.
- The position is suitable for persons with severe disabilities. Applicants with severe disabilities will be given preference in hiring when they have essentially the same qualifications, aptitude, and professional performance as other candidates.
- In the context of your application for a position at the Technical University of Munich (TUM), you are transmitting personal data. Please take note of our data protection information pursuant to Article 13 of the General Data Protection Regulation (GDPR) regarding the collection and processing of personal data as part of your application: <https://portal.mytum.de/kompass/datenschutz/Bewerbung/>
By submitting your application, you confirm that you have taken note of TUM’s data protection information.

Application

We look forward to your application. Please include your CV and Transcript of Records in an email to benedikt.schaible@tum.de

Technical University of Munich

Chair of Electronic Design Automation

Benedikt Schaible

Arcisstraße 21, 80333 München

Tel. +49 89 289 23694

benedikt.schaible@tum.de

<https://www.ce.cit.tum.de/en/eda/>

<https://www.tum.de>