

Student Assistant - Improving an AI-Supported Module Recommendation Tool

Student Assistant Research

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Context & Goal

Choosing suitable modules at university can be challenging. Especially when courses are spread across multiple departments, use different terminology, or are difficult to find through conventional search tools. This becomes even more relevant when students look for interdisciplinary topics such as digitalization or sustainability, which are addressed across various departments, but are often hidden in several module handbooks or not labeled intuitively.

At the university level, there are already many modules on interdisciplinary topics; however, these offerings are scattered across the university and are often not visible to every student. To make it easier for students to discover these modules, our project bundles them and makes them accessible through a single web application. Building on this idea, we are developing an AI-supported module discovery tool that helps students find relevant courses based on a natural-language prompt or a combination of filters. The goal is to make course exploration more personalized and more efficient, especially for interdisciplinary interests.

To achieve this, we have built a prototype (now in beta testing) that uses a curated database of module descriptions from TUM, enriched with LLM-based semantic search and recommendation logic. As part of the beta phase, we are also systematically evaluating how useful the tool is for students, including its functionality and user experience.

We are now looking for a student assistant (HiWi) to help refine and expand the system, improve its frontend/backend, enhance the recommendation quality, and incorporate feedback gathered during the beta phase.

Required Skills

- Prior experience in web development on the front end as well as on the backend
- Strong knowledge of HTML, CSS, JavaScript, React
- Experience with at least one backed framework (e.g., Python/Flask/FastAPI)
- Knowledge in API usage and integration
- Experience with version control systems such as Git
- Ability to understand and extend an existing codebase
- Excellent problem-solving skills and attention to detail
- Strong communication and collaboration skills

1 Working Plan

1. Deeply familiarize yourself with the existing frontend and backend codebase of the Module Recommender
2. Maintain and further develop the web application (e.g., new filters, enhanced UX)
3. Evaluate and implement feedback from ongoing beta tests (e.g., implementing adjustments directly in the code)
4. Assisting with the evaluation process

Our Offer

We can offer a HiWi contract of up to 10 hours per week. You are embedded in a project focused solely on this subject with the flexibility to work from home. Additionally, you have the freedom to implement the goals in line with your own ideas.