Student Assistant Position (w/m/d) at Pattern Recognition Lab, FAU

Are you a motivated student passionate about graph databases, LLMs, and AI? Join our research team at the PR lab, working on projects involving cutting-edge knowledge graph frameworks that enable intelligent analysis of utility infrastructure such as district heating, water, and electricity grid infrastructures. You'll help us shape the future of digitized utilities by maintaining & publishing open-source packages, integrating heterogeneous data into a graph database, and supporting the modeling of district heating simulations.

Qualifications

- Proficient in Python and keen to work with Neo4j
- Some knowledge and understanding of LangChain, LangGraph, LLMs, Next.js
- Interest in learning about the theory behind modeling District Heating Networks
- Highly motivated, with a proactive approach to tackling tasks
- Team-minded, with the ability to collaborate effectively and communicate clearly
- Good organizational skills and attention to detail

Responsibilities

- Develop and publish open-source Python Frameworks that integrate Utility network data (power grid, district heating, and water networks), with LLMs and graph databases (example framework)
- Provide clear documentation and examples demonstrating how users can ingest their own utility system data, construct graph representations, and interactively analyze them using LLMs.
- Reuse (and possibly extend) a data preprocessing framework to clean, restructure, and integrate heterogeneous data (SCADA, GIS, substation measurements) from a District Heating Network into a graph database.
- Support in developing a differential equation-based / physics-induced loss (surrogate) thermohydraulic simulation model for a DHN.

Position Details

- **Workload**: 7 hours per week

Application Process

If the position excites you, we encourage you to apply with the following documents via email with the subject line: **Hiwi-LME-DPUI-2026.** Incomplete applications will not be considered.

1. **Cover Letter** – Briefly describe what excites you about this position and relevant experience
2. **CV** – Highlight programming, database, or AI coursework/projects
3. **Transcript** – Include current or past academic results
4. **Python Projects / Git-Profile** – Showcase any code or project portfolios

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Inquiries

For questions, contact **karan.pahlajani@fau.de**. We look forward to your application and the opportunity to collaborate on impactful projects in the Utility Network domain! *(For more information on our lab and ongoing projects, please visit the FAU LME website.)*