



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

*Are you a motivated student passionate about machine learning, AI, and pattern recognition? Join the Pattern Recognition Lab (LME) at FAU, where we advance data analysis and signal processing for real-world applications. Work with a team pushing the boundaries of AI through innovative projects in database development and feature engineering.*

## Qualifications

- Proficient in **Python** and **Object-Oriented Programming (OOP)**.
- Solid background in **signal processing**, **machine learning**, and **time-series analysis**.
- 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

- **Data Preprocessing & Feature Engineering:** Clean and preprocess SCADA data for analysis, apply signal processing techniques (Fourier/Wavelet transforms, Kalman filtering), and use tools like TSFresh and autoencoders for feature extraction.
- **Database Management & Web Development:** Contribute to the UtilityTwin Graph database (Neo4j, Flask) by handling data entry, unit testing, and web interface development.
- **Support for Research & Student Projects:** Prepare and structure time-series datasets, conduct exploratory data analysis (EDA), and apply clustering techniques to utility datasets.
- **Additional Tasks:** Digitize utility documents and organize GPS metadata using Python and APIs such as Google Maps and OpenStreetMaps

## Position Details:

This position requires a commitment of **12-15 hours per week**.

## Application Process:

We invite students passionate about AI and machine learning to apply. Please submit the following documents:

- Cover letter
- CV
- Transcript
- Brief (~100 words) statement of purpose
- Python projects/Git-Profile

Submit your application with the subject line: **Hiwi-LME-2024**. Incomplete applications will not be considered. We are looking for a potential student assistant who is looking for a **long-term employment than 6 months**, the **ideal candidate would be in a higher semester of their bachelor's degree (4th semester or higher) or starting their master's degree (1st/2nd semester)**.

## Inquiries:

For questions, contact [julian.oelhaf@fau.de](mailto:julian.oelhaf@fau.de)

For more information, visit the Pattern Recognition Lab [website](#).