

**Technische Universität Berlin**

Student assistant (80 hours per month)

Faculty IV - Electrical Engineering and Computer Science, Institut für Softwartechnik und theoretische Informatik - Maschinelles Lernen IBS Lab

Reference number: IV-SB-0061-2025 (starting at the earliest possible / closing date for applications 05/09/25)

Your responsibility:

Area of responsibility:

The Intelligent Biomedical Sensing (IBS) Lab at TU Berlin's BIFOLD / Machine Learning Department develops machine-learning models for wearable neurotechnology and body-worn sensors to monitor the embodied brain in the everyday world. For this research we have established our open-source toolbox Cedalion (www.ibs-lab.com/cedalion). We are looking for a student research assistant in the domain of Machine Learning for Biomedical Signal Analysis and Modelling that helps with programming and maintenance tasks of our toolbox.

Your tasks:

Supporting research assistants in the further development and maintenance of our Python-based toolbox (70 %) :

- implement signal-processing and ML methods for brain imaging and systemic physiology data
- Develop visualization tools
- Validate methods on datasets
- Maintain infrastructure
- support the community by handling issues and bug fixes

Support in improving documentation (30%):

docstrings, example notebooks, figures, reports / scientific papers, tutorial videos

Your profile:

Must criteria:

- Excellent knowledge and skills in computer science, computational neuroscience, physics, engineering, applied math, or similar
- Strong proficiency in Python
- Good knowledge of signal processing and ML methods and libraries (NumPy, scipy, scikit-learn, PyTorch/TensorFlow)
- Familiarity with software engineering best practices (version control, clean, modular and documented code, testing, CI/CD)
- Highly proficient in written and spoken English

Can criteria:

- Experience with time-series analysis, linear models, biomedical signals
- Practical experience with ML and signal processing for physiological data
- Interdisciplinary and cooperative project experience
- Understanding of open-source workflows (issues, pull requests, branching strategies)
- Team player, good communicator

How to apply:

Party responsible for specialist area / point of contact for job posting: Dr.-Ing. Alexander v. Lühmann/petra.dudakova@tu-berlin.de

Period of employment: immediately for 2 years

Apply to: petra.dudakova@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>

