



Technische Universität Berlin offers an open position:

Student assistant (80 hours per month)

Fakultät IV: Elektrotechnik und Informatik, Institut für Telekommunikationssysteme, FG Verteilte Systeme und Betriebssysteme

Reference number: IV-SB-0039-2025 (starting at the earliest possible / limited until 31.12.2026 / closing date for applications 21/05/25)

Working field:

We are looking for a student worker to support our research in the new EU-funded project Swarmchestrate, which focuses on orchestrating application resources across the Cloud-to-Edge continuum. The project aims to explore proactive strategies for optimizing application runtimes by anticipating resource demands and adapting deployment accordingly. At the research group DOS of Prof. Odej Kao, we investigate resource orchestration mechanisms suited to heterogeneous environments spanning cloud and edge layers, develop predictive models to enable proactive resource allocation, design experiments to evaluate orchestration strategies under realistic workloads, and collaborate closely with academic and industry partners across Europe. The student will be fully involved in the collaborative research and, thus, gain hands-on experience with predictive modeling, orchestration frameworks, and scientific experimentation in real-world computing environments. The student's responsibilities include:

- Support with implementing and testing statistical and deep learning models for proactive resource allocation (40%)
- Supporting execution and evaluation of orchestration experiments across the Cloud-to-Edge continuum (30%)
- Assisting the team with research activities (e.g., literature reviews, benchmarking models, testing orchestration frameworks) (30%)

Requirements:

Must:

- A good understanding of distributed systems and machine learning
- Solid programming skills preferably in Python
- Good knowledge of Java (for simulation purposes)
- Good knowledge of Linux and command line tools
- Very good written and spoken English skills

Can:

- Familiarity of learning algorithms for time series forecasting,
- Good knowledge of cloud-to-edge simulation environments (projects like DISSECT-FC-Fog, iFogSim, EdgeCloudSim)
- Knowledge of resource managers like Kubernetes
- Good communication skills

Party responsible for specialist area / point of contact for job posting: Ismail Aslan/ Prof. Odej Kao

Period of employment: immediately until 31.12.2026

Apply to: jana.bechstein@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.personalabteilung.tu-berlin.de/menue/jobs/>

