



Technische Universität Berlin



Technische Universität Berlin offers an open position:

Research Assistant - salary grade E13 TV-L Berliner Hochschulen

part-time employment may be possible

Faculty IV - Institute of Telecommunication Systems / Distributed and Operating Systems (DOS)

Reference number: IV-204/25 (starting at 01/07/25 / until 30/06/28 / closing date for applications 06/06/25)

Working field:

The Collaborative Research Center Foundations of Workflows for Large-Scale Scientific Data Analysis (FONDA) will develop new methods to support scientists, who work with cluster infrastructures to analyze very large datasets. Large-scale data analysis systems routinely require scientists to make difficult decisions regarding the different available computational resources and to hand-tune distributed processing jobs, as these settings have a significant impact on runtimes and energy efficiency, and carbon emissions. Within FONDA, the Distributed and Operating Systems group of Prof. Dr. Odej Kao at TU Berlin is going to develop novel methods to characterize multi-site infrastructures, the machines' energy profiles, and their energy sources. Further, we will explore novel methods for infrastructure- and carbon-aware task models based on fine-grained time series data and by incorporating the spatio-temporal variability of renewable energy sources and the heterogeneity of centers. The research questions focus on carbon-aware resource management under consideration of multi-site execution. The new methods are to be validated in context of relevant open-source software. The results are to be published.

Requirements:

- Successfully completed university degree (Master, Diplom or equivalent) in computer science
- Good knowledge of distributed systems, parallel and distributed data processing, and machine learning
- Good knowledge of cluster resource management with systems like Kubernetes or Slurm as well as containers/Docker
- Solid programming skills in Python, Java, C++, or Go
- Good knowledge of German and/or English is required; willingness to acquire the respective missing language skills

Desirable:

- Experience in teaching and research; agile project management and iterative software development methodologies; cluster administration.

Please send your written application with the **reference number** and the usual documents (CV, list of grades, language certificates) to Technische Universität Berlin, Prof. Odej Kao: **odej.kao@tu-berlin.de**.

By submitting your application via email you consent to having your data electronically processed and saved. Please note that we do not provide a guaranty for the protection of your personal data when submitted as unprotected file. Please find our data protection notice acc. DSGVO (General Data Protection Regulation) at the TU staff department homepage: https://www.abt2-t.tu-berlin.de/menue/themen_a_z/datenschutzerklaerung/ or quick access 214041.

To ensure equal opportunities between women and men, applications by women with the required qualifications are explicitly desired. Qualified individuals with disabilities will be favored. The TU Berlin values the diversity of its members and is committed to the goals of equal opportunities. Applications from people of all nationalities and with a migration background are very welcome.

Technische Universität Berlin - Die Präsidentin - Institut für Telekommunikationssysteme, FG Verteilte Systeme und Betriebssysteme, Prof. Dr. Odej Kao, Sekr. EN 22, Einsteinufer 17, 10587 Berlin

The vacancy is also available on the internet at
<https://www.personalabteilung.tu-berlin.de/menue/jobs/>

