Technische Universität Dresden (TUD), as a University of Excellence, is one of the leading and most dynamic research institutions in the country. Founded in 1828, today it is a globally oriented, regionally anchored top university as it focuses on the grand challenges of the 21st century. lt develops innovative solutions for the world's most pressing issues. In research and academic programs, the university unites the natural and engineering sciences with the humanities, social sciences and medicine. This wide range of disciplines is a special feature, facilitating interdisciplinarity and transfer of science to society. As a modern employer, it offers attractive working conditions to all employees in teaching, research, technology and administration. The goal is to promote and develop their individual abilities while empowering everyone to reach their full potential. TUD embodies a university culture that is characterized by cosmopolitanism, mutual appreciation, thriving innovation and active participation. For TUD diversity is an essential feature and a quality criterion of an excellent university. Accordingly, we welcome all applicants who would like to commit themselves, their achievements and productivity to the success of the whole institution.

At the **Faculty of Computer Science, Institute of Systems Architecture**, the **Chair of Systems Engineering** ([www.inf.tu-dresden.de/sya/se](http://www.inf.tu-dresden.de/sya/se)) offers a position as

**Research Associate / Postdoc** (m/f/x)

(Subject to personal qualification employees are remunerated according to salary group E 13 TV-L)

starting at **September 1, 2023**. The position is initially limited to December 31, 2025 with the option of extension within following projects subject to the availability of resources. The period of employment is governed by the Fixed-Term Research Contracts Act (Wissenschaftszeitvertragsgesetz- WissZeitVG).

The Chair of Systems Engineering is conducting research in the EU third-party funded project CloudSkin.

**CloudSkin**

This project pursues to build a cognitive cloud continuum platform which uses AI/ML to optimize workloads, resources, energy, and network traffic for a rapid adaptation to changes in application behavior and data variability, re-configuring the "sweet spot" between the cloud and the edge in the face of the rapid varying conditions. The platform will also help users to achieve “stack identicality” across the Cloud-edge continuum, whereby the same (legacy) software stacks (e.g., MPI programs) running in data centers can seamlessly run at remote edges. The development of a new lightweight, portable virtualization abstraction will be paired with the development of new confidential abstractions to protect data. CloudSkin will also contribute to prepare the needed infrastructure to integrate the new virtualized execution abstractions into the virtual resource continuum, particularly, for those Cloud-edge applications composed of small tasks with fast data access and sharing requirements. The infrastructure will expose the relevant control knobs to enable dynamic reconfiguration of resources as assisted by the AI/ML-based orchestration plane in the CloudSkin platform.

**Tasks:** Independent research in the field of the chair, especially in the field of cloud computing and confidential computing. In this context, the main research areas include the development of software components within the CloudSkin-project. The development, publication and presentation of scientific publications at national and international conferences as well as journals are expected.

**Requirements:** very good university degree (M.Sc., Dipl.) in Computer Science or related fields and, if applicable, PhD degree; strong skills in distributed systems; ability to work independently and purposefully in a team; an integrative and cooperative personality with excellent communication and social skills; high engagement; fluency in English - written and oral; interest in interdisciplinary cooperation in all areas of computer science as well as with industrial partners. We search for a personality having practical experiences with various programming languages and concepts.

**What we offer:** You join a team of enthusiastic scientists who creatively pursue their individual research work.

TUD strives to employ more women in academia and research. We therefore expressly encourage women to apply. The University is a certified family-friendly university and offers a Dual Career Service. We welcome applications from candidates with disabilities. If multiple candidates prove to be equally qualified, those with disabilities or with equivalent status pursuant to the German Social Code IX (SGB IX) will receive priority for employment.

Your application (in English only) should include: motivation letter, CV, copy of degree certificate and proof of English language skills. Complete applications should be submitted preferably via the TU Dresden SecureMail Portal <https://securemail.tu-dresden.de> by sending it as a single pdf document quoting the reference: **“CloudSkin”** in the subject header to [**se@mailbox.tu-dresden.de**](mailto:se@mailbox.tu-dresden.de) or to: **TU Dresden, Fakultät Informatik, Institut für Systemarchitektur, Professur für Systems Engineering, Herrn Prof. Dr. Christof Fetzer, Helmholtzstr. 10, 01069 Dresden, Germany.** The closing date for applications is **June 30, 2023** (stamped arrival date of the university central mail service applies). Please submit copies only, as your application will not be returned to you. Expenses incurred in attending interviews cannot be reimbursed.

**Reference to data protection: Your data protection rights, the purpose for which your data will be processed, as well as further information about data protection is available to you on the website:** <https://tu-dresden.de/karriere/datenschutzhinweis>**.**