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

The Chair of Mixed Signal Circuit Design at Technische Universität Berlin is looking for an innovate research scientist who is interested in performing research in the field of high speed digital CMOS circuit design, ML/AI systems, neuromorphic computing, microprocessors, RISC-V, etc. The position is funded by the German Federal Ministry of Education and Research (BMBF) as part of the initiative "6G Research Hubs; Platform for Future Communication Technologies and 6G".

We are looking for candidates holding a Master's degree (or equivalent), who can think out of the box, and who strive for a PhD degree in a sophisticated research area.

1 RESEARCH ASSISTANT in the field of digital IC design

Research topics of our Chair are largely centered around the design of innovative ultra-low-power and high-speed analog & digital circuits and systems. Of particular interests are energy-efficient digital designs concepts and new architectures for ML/AI systems, neuromorphic computing, microprocessors, RISC-V, digital base-band processors for 6G communication etc. monolithically implemented in standard CMOS processes such as 22nm SOI.

Faculty IV - of Computer Engineering and Microelectronics / Mixed Signal Circuit Design

Reference number: IV-319/22 (starting at the earliest possible / until 31/07/25 / closing date for applications 07/03/23)

Working field:

- Self-driven research with possible focus on new 6G digital baseband concepts with high energy efficiency, or on modern computer architecture with high energy efficiency, or on modern digital hardware AI/ML architectures with high energy efficiency
- Characterization of integrated circuits based on silicon-prototype measurements
- Internationally publish research results

Requirements:

- Successfully completed university degree (Master, Diplom or equivalent) in Computer Engineering, Electrical Engineering or Physics
- Expertise in design and verification of digital circuits on register-transfer level by using Verilog, SystemVerilog or VHDL
- Experience with FPGA- or VLSI-Designflow for the design of integrated circuits
- Experienced in the use of logic synthesis- and place-and-route tools, e.g. Xilinx Vivado, Synopsys Design Compiler, Synopsys IC Compiler II
- Expertise in the field of computer architecture and/or hardware AI/ML architecture
- Programming skills, e.g. Python, C, C++, Java, Tcl, and skills in software engineering
- General understanding of 6G communication protocols
- Knowledge and experience in the field of compiler construction
- · Enthusiastic, energetic, and team oriented personality
- Self-driven with very good communication skills in German and English

We offer:

- Challenging research project funded by the BMBF (6G Research and Innovation Cluster (6G RIC) Offene und sichere 6G-Technologien)
- Close collaboration with other research facilities and industry, in particular Intel, Infineon, R&S and others
- · Internationally renowned and motivated team
- Our institute is located in the heart of Germany's capital Berlin not far from the Brandenburg Gate

Please send your application with the **reference number** and the usual documents (combined in a single pdf file, max 5 MB) **only by email** to **sara.tennstedt@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 guarantee 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.

Technische Universität Berlin - Die Präsidentin - Fakultät IV, Institut für Technische Informatik und Mikroelektronik, FG Mixed Signal Circuit Design, Sekr. EN 4, Einsteinufer 17, 10587 Berlin

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

