Faculty of Electrical and Computer Engineering

At the Institute of Communication Technology, Junior Professorship of Haptic Communication Systems, the 6G-life Research-Hub „Digital transformation and sovereignty of future communication networks“ offers, subject to the availability of resources, two positions as

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

starting as soon as possible. The positions are initially limited for three years with the option of extension subject to the availability of resources. The period of employment is governed by the Fixed Term Research Contracts Act (Wissenschaftszeitvertragsgesetz – WissZeitVG). The position offers the chance to obtain further academic qualification (e.g. PhD).

Position 1:
Task: Research activities in the area of In-Network Computing: The goal is design and build a novel programmable network infrastructure that offers drastically lower end-to-end latency, higher flexibility and more resilience. This includes the study, design, implementation, and exploitation of:
   (i). novel programmable network devices
   (ii). novel architectures, data-plane abstractions
   (iii). new network and transport protocol.
This area of research is at the junction of several individual areas such as cloud computing, networking, and operating system etc. One is expected to work not only on one particular area, but also willing to explore related areas of expertises, as well as to collaborate with other team members. Research outcomes should be implemented and deployed on real testbeds.
Requirements: university degree (Diploma/Master) in electrical engineering or computer science; knowledge of the basic principles of communication networks and network softwarization; network function virtualization, software defined networking and programming protocol-independent packet processors (such as P4); programming skills (Matlab, Python, C, C++); command of written and spoken English; ability and willingness to work independently, conceptually and scientifically. Knowledge of German desirable. Knowledge of Operating Systems (especially kernel) is helpful.

Position 2:
Task: Research activities in the area of distributed robot architecture: The goal is design and build a novel distributed robot architecture that allows for a closed collaboration between human and robots. This includes the study, design, implementation, and exploitation of:
   (i). novel architecture for distributed robots combining both coordinated and autonomous operations.
   (ii). scalable and platform-agnostic communication infrastructure
   (iii). adaptive strategies for enabling the flexible execution
This area of research requires an interdisciplinary approach. One is expected to work not only on robotics, but also willing to explore related areas of expertises such as communications and networking, as well as to collaborate with other team members. Research outcomes will be implemented and deployed on real testbeds.
**Requirements:** university degree (Diploma/Master) in electrical engineering or computer science; knowledge of the basic principles of robotics, including e.g., Robot Operating System (ROS), Motion planning framework (such as Moveit), experience with sensitive/nonsensitive robots (such as Panda from Franka Emika and Spot from Boston Dynamics); distributed software systems, communications of multiple modalities (audio, video, haptic); simulation environment (such as NVIDIA Isaac Sim); programming skills (Python, C, C++); command of written and spoken English; ability and willingness to work independently, conceptually and scientifically. Knowledge of German desirable. Knowledge of software integration/deployment is helpful.

More details about the 6G-life Research-Hub are given under [www.6g-life.de](http://www.6g-life.de). Applications from women are particularly welcome. The same applies to people with disabilities. Please send your application documents until **September 10, 2021** (stamped arrival date of the university central mail service applies) preferably via the TU Dresden SecureMail Portal [https://securemail.tu-dresden.de](https://securemail.tu-dresden.de) by sending it as a single pdf document to recruitment.6glife@tu-dresden.de with the reference „6G_Giang_Position...“ (as given above) in the subject header or to: TU Dresden, Fakultät Elektrotechnik und Informationstechnik, Institut für Nachrichtentechnik, Juniorprofessur für Haptische Kommunikationssysteme, Jun.-Prof. Dr.-Ing. Giang T. Nguyen, Helmholtzstr. 10, 01069 Dresden. 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](https://tu-dresden.de/karriere/datenschutzhinweis)