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. It 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 Electrical and Computer Engineering, Institute of Communication Technology**, the **Chair of Information Theory and Machine Learning**, the **6G-life Research-Hub „Digital Transformation and Sovereignty of Future Communication Networks“** offers three positions as

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

starting **as soon as possible**. The positions are limited until August 14, 2025. The period of employment is governed by the Fixed Term Research Contracts Act (Wissenschaftszeitvertragsgesetz – WissZeitVG). The positions offer the chance to obtain further academic qualification (e.g. PhD / habilitation thesis).

Tasks: The research activities are in the area of wireless communications for future communication systems of the 6th generation (6G) with a particular focus on information and communication theory, machine learning for communications, and security and privacy of information systems. Possible topics are:

- information theoretic analysis of communication beyond the Shannon approach (Post-Shannon communication or semantic communication),
- novel security concepts such as physical layer security,
- novel communication and security approaches based on machine learning.

All tasks are carried out in cooperation with partners from industry and science. The field of activity also includes the supervision of student work related to the research topics. The results of the work are to be published at international conferences and in recognized journals.

Requirements: above-average university degree in the field of electrical engineering, communications engineering or information systems engineering, computer science, mathematics, physics or similar; profound knowledge of wireless communications, communications engineering, information theory; independent, goal- and solution-oriented approach; confident command of written and spoken English. Knowledge of machine learning and programming languages such as Matlab, Python, C++, or TensorFlow is a plus.

More details about the 6G-life Research-Hub are given under www.6g-life.de.

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.

Please submit your comprehensive application including the usual documents by **October 24, 2022** (stamped arrival date of the university central mail service applies), preferably via the TU Dresden SecureMail Portal https://securemail.tu-dresden.de by sending it as a single pdf document to **rafael.schaefer@mailbox.tu-dresden.de** or to: **TU Dresden, Fakultät Elektrotechnik und Informationstechnik, Institut für Nachrichtentechnik, Professur für Informationstheorie und maschinelles Lernen, Herrn Prof. Dr. Rafael Schaefer, Helmholtzstr. 10, 01069 Dresden, Germany**. Please submit copies only, as your application will not be returned to you. Expenses incurred in attending interviews cannot be reimbursed.

DRESDEN concept

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**.**