TUD Dresden University of Technology, 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 **Deutsche Telekom Chair of Communication Networks** offers a position under the project **Robots4ResQ** 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 position is limited until December 31, 2027. The period of employment is governed by § 2 (2) Fixed Term Research Contracts Act (Wissenschaftszeitvertragsgesetz – WissZeitVG).

Tasks:

- design and implement advanced control, state estimation, and path planning algorithms for single and multi-agent robotic systems (UAVs).
- develop and train AI models for practical applications such as real-time object detection and tracking in complex environments.
- create and manage high-fidelity simulation environments for autonomous systems using tools like Gazebo, Nvidia Isaac, and ROS2.
- research and evaluate robust communication protocols (e.g., MAVLink) for swarm systems to ensure reliable data exchange and cooperative control.
- lead the development of practical demonstrators, from embedded flight controller design to system integration.
- publish research findings in high-impact international journals and conferences, contributing to the academic community

Requirements: scientific university degree (Master's or equivalent) in Mechatronics, Electrical-Electronic Engineering, Computer Science, or a closely related field; Proven hands-on experience in software development with Modern C++ and Python; Demonstrable expertise in robotics software, particularly ROS, and simulation platforms like Gazebo; A strong foundation in control systems design, simulation, and implementation, preferably shown through projects with UAVs or other robotic systems; Practical experience implementing AI models for tasks such as object tracking or SLAM; Full professional proficiency in English (spoken and written); elementary knowledge of German is welcomed; An independent, proactive, and scientific-work-oriented mindset with the ability to thrive in a team environment.

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. 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 detailed application with the usual documents by **September 4, 2025** (stamped arrival date of the university central mail service or the time stamp on the email server of TUD applies), preferably via the TUD SecureMail Portal https://securemail.tu-dresden.de by sending it as a single pdf file to **karin.domel@tu-dresden.de** or to: **TU Dresden, Deutsche Telekom Professur für Kommunikationsnetze, Frau Karin Domel, 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.

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**.**