

PhD position (Wissenschaftlicher Mitarbeiter, E13, 4 years)

Edge Resource Modeling and Management in 6G

This research topic is in the field of resource management for wireless network that leverage “digital twins” modeling aspects of the physical (such as user mobility, user demands, wireless system deployment) as well as the digital world (such as networking, memory, computational resources for different applications). Information about the physical and digital world is continuously sensed and/or explicitly shared to provide a model of 6G network environment and its users – encouraging design of algorithms, protocols, and systems that “intelligently” fuse data and extrapolate future (short-, mid-, and long-term) network capacity demands from past and present observations in a privacy-preserving manner. Such solutions shall be able to allocate resources that satisfy the user demands in real time while also considering the operator goals of maximizing resource utilization and maintaining service level agreements. The focus of this thesis project will be on real-time operation and ensuring user privacy across all operations. This thesis will be carried out in tandem with a PhD student in EE working on energy efficiency and sustainability as well as real-time properties.

The position is part of the Bavarian 6G Future Lab, the pilot project of which is a collaboration of 13 research teams at TUM, targeting research into novel foundational mechanisms for future 6G networks and their demonstration as proof-of-concept implementation in an experimental 6G testbed.

Your qualifications

- MSc in Computer Science or Electrical Engineering
- Strong background in networking and systems with solid coding skills
- Mathematical background for modeling and analytics
- Openness for collaboration within our research group, inside the project, and beyond
- Curiosity and creativity to explore new directions
- Professional English

Our offer

- Full-time position, with payment according to the Collective Agreement for the Civil Service of the Länder (TV-L) E13, up to four years
- Open-minded research environment with numerous complementary projects on challenging topics and manifold cooperation opportunities
- Network of national and international partners for cooperation and research exchanges
- Inspiring working atmosphere in one of the leading informatics departments in Germany

TUM is an equal opportunity employer and strives to raise the proportion of women in its workforce and explicitly encourages applications from qualified women. Applications from disabled persons with essentially the same qualifications will be given preference.

Application

We accept applications until the position is filled. Please send your applications with the usual material (motivation letter, CV, certificates, possibly publications) as a single PDF to the email address indicated below.

Technische Universität München

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