TU Dresden is among the top universities in Germany and Europe and one of the eleven German universities with the title ‘University of Excellence’.

The **Faculty of Computer Science** invites applications for the

**Chair (W2/W3) of Machine Learning for Spatial Understanding**

is to be filled **as soon as possible** as a strategic chair in the Center for Scalable Data Analytics and Artificial Intelligence (ScaDS.AI Dresden/Leipzig). The position offers an excellent environment within the ScaDS.AI competence center Dresden/Leipzig, which is funded by the Federal Ministry of Education and Research and the Free State of Saxony. This includes the opportunity for interdisciplinary cooperation with computer scientists, natural scientists, mathematicians and scientists from the life sciences, medicine, environmental sciences, earth sciences, and engineering. There is access to state-of-the-art technologies and an outstanding high-performance computing infrastructure. Further information about the research directions of ScaDS.AI can be found at [https://www.scads.ai](https://www.scads.ai).

The new chair will support the field of artificial intelligence (AI) and machine learning (ML) at the university and play a central role in the ScaDS.AI center Dresden/Leipzig. In order to close the gap between the efficient use of Big Data, advanced AI methods, and knowledge representation, a total of eight new chairs in the fields of Data Analytics and Artificial Intelligence will be established at both locations of ScaDS.AI. This will strengthen the methodological focus in Big Data, Machine Learning, and Artificial Intelligence. At TU Dresden, fundamental research areas are to be established by four new chairs in ”Data Science”, ”Knowledge-Aware Artificial Intelligence”, ”Scalable Software Architectures for Data Analytics” and ”Machine Learning for Spatial Understanding”. In particular, this will also advance the use of AI methods in various application areas.

The Chair of Machine Learning for Spatial Understanding will research and develop robust, efficient and scalable methods for the automatic understanding of three-dimensional structures, scenes, and objects using machine learning methods. We are particularly interested in the following research topics and their application in autonomous driving, industrial automation, robotics, and medical diagnostics and intervention: Efficient machine learning for point cloud and depth map analysis; simultaneous localization and mapping (SLAM); Machine Learning for deformable object recognition; multimodal spatial reconstruction, esp. using light, radar, and ultrasound; robust spatial reconstruction using sensor fusion; semantic scene understanding; adaptive spatial reconstruction; and robot navigation. You should have made significant research contributions in one or several of these fields.

You (m/f/x) will represent the topic of the call in research and teaching. The chair is expected to play a central role in ScaDS.AI Dresden/Leipzig and to integrate into the Faculty of Computer Science. Within the framework of the competence center, there are close cooperations with various disciplines. Teaching obligations are reduced to two hours/week for the duration of the ScaDS.AI Dresden/Leipzig, but participation in teaching is desired. This includes courses in German or English in the area of dedication for the curricula of the Faculty of Computer Science. In addition, as it is standard, you will teach basic courses in the field of dedication and at other faculties (teaching export). In particular, we expect that the chair contributes to developing the new ”Data Science” curriculum and the new track ”Applied AI” in the Master’s Program “Computational Modeling and Simulation”. The responsibilities also include participation in academic self-administration and in the academic committees of the Faculty of Computer Science and Technische Universität Dresden.
You are internationally renowned in the mentioned research fields and have experience in one or several application areas relevant to ScaDS.AI Dresden/Leipzig. Special emphasis is placed on excellent international publications as well as on active participation in collaborative interdisciplinary research, and the independent acquisition and management of research funding. The applicant is expected to have substantial experience in the supervision of PhD students, proven excellent teaching abilities, and a Habilitation or habilitation-equivalent achievements. The prerequisites for appointment are based on § 58 of the Act on the Autonomy of Institutions of Higher Education in the Free State of Saxony (SächsHSFG).

The chair is usually appointed as a W2 position. An upgrade to a W3 position may be considered if the excellence criteria of ScaDS.AI are met in an exceptional way: outstanding research results, proven success in mentoring junior scientists, high international visibility, coverage of a broader research area, and innovative as well as and preferably interdisciplinary research approaches.

For questions, please contact the Dean of the Faculty of Computer Science, Prof. Dr. sc. techn. Ivo F. Sbalzarini, Tel. +49 351 463-32815; E-Mail: dekan.inf@tu-dresden.de, as well as the Director of ScaDS.AI, Prof. Dr. rer. nat. Wolfgang E. Nagel, Tel. +49 351 463-35450; E-Mail: scads.ai@tu-dresden.de.

TU Dresden seeks to employ more female professors. Hence, we particularly encourage women to apply. Applications from candidates with disabilities or those requiring additional support are very welcome. The University is a certified family-friendly university and offers a Dual Career Service. If you have any questions about these or related topics, please contact the Equal Opportunity Officer of the Faculty of Computer Science (Dr.-Ing. Iris Braun, +49 351 463- 38063) or the Representative of the Disabled (Mr. Roberto Lemmrich, Tel.: +49 351 463-33175).

Please submit your application including the usual documents (curriculum vitae in tabular form, description of your scientific career, list of publications, list of third-party funded projects and previous teaching activities including the results of the teaching evaluations (preferably of the last three years)), a research (max. 3 pages), integration as well as teaching concept (max. 1 page each) as well as a certified copy of the certificate of your highest academic degree by August 22, 2022 (date of receipt by the central postal service of TU Dresden) to: TU Dresden, Dean of the Faculty of Computer Science, Prof. Dr. Ivo F. Sbalzarini, Helmholtzstr. 10, 01069 Dresden, Germany, and in electronic form (CD, USB storage medium or via the SecureMail Portal of TU Dresden, https://securemail.tu-dresden.de to dekan.inf@tu-dresden.de).

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.