

München, 10. Februar 2025

The Engineering Risk Analysis Group at TUM is looking for a

## Research Associate (PhD candidate)

for

### AI-based Infrastructure Maintenance Planning

The Engineering Risk Analysis ([www.cee.ed.tum.de/era/](http://www.cee.ed.tum.de/era/)) develops and implements engineering reliability, risk & decision analysis to enhance optimal & sustainable decision making for civil systems and the environment. There is tremendous potential in exploiting artificial intelligence and digitalization to enhance and optimize maintenance of civil infrastructure systems, including transportation, energy, and water networks.

We offer a fully funded PhD position ([100% TV-L E13](#)) within the [INFRA.RELEARN project](#), financed by the TUM Georg Nemetschek Institute of Artificial Intelligence for the Built World. In this project, we are developing strategies for optimizing infrastructure maintenance through reinforcement learning. The position is part of a team of civil engineers and computer scientists.

#### Your profile:

- M.Sc. degree in Civil, Mechanical or Electrical engineering. Applicants with degrees in Computer Science or Applied Math are also welcome, if they have experience with engineering applications
- Experience with machine learning and probabilistic methods (completed Master-level course in quantitative risk analysis, probabilistic modelling and assessment, or equivalent)
- Experience in programming with Python, Matlab or equivalent
- Excellent analytical skills, strong interest and capabilities in quantitative analysis
- Proficiency in English (both written and oral), German is a plus
- Strong communication skills

We offer full employment with payment according to TV-L E13. The expected starting date is in spring 2025. The successful candidate will be enrolled in the doctoral program of the Technical University of Munich. You will work with a great team, including researchers from the Chair of Robotics, Artificial Intelligence, and Real-time Systems (Prof. Knoll). You can expect a dynamic and flexible work environment. We are located in the centre of Munich.

If you are interested in this position, please send your CV and a short cover letter to [straub@tum.de](mailto:straub@tum.de).

TUM is aiming to increase the number of women employees, and applications from women are expressly welcomed. People with disabilities, with essentially the same suitability and qualification, will be preferred.

By submitting your application to the Technical University of Munich (TUM), you also confirm that you have taken note of the data protection information of the TUM according to Art. 13 Data Protection Basic Regulation (DSGVO) on the collection and processing of personal data in connection with your application <http://go.tum.de/554159>.