Postdoctoral Position for Pathology AI and Medical Machine Learning (m/f/d)

The Schüfflerlab (https://schuefflerlab.org) at the Technical University of Munich (TUM) is offering a 2y postdoctoral full-time position in Pathology AI and medical machine learning for a talented **postdoctoral researcher (f/m/d)** to deepen their expertise and interest in **machine learning for medical image analysis** and build their early scientific career.

About us

We are TUM's unique Pathology AI lab developing new machine learning (ML) methods for automatically analyzing digital pathology data and related medical data. Such methods include the automatic detection, segmentation, and quantification of diseases such as cancer, the generation of novel representations of pathology data for further processing, or the discovery of virtual biomarkers for patients' prognosis or treatment decisions. For modeling, we use both public and proprietary clinical and research data greatly enriched by our own repository of digital pathology images. A further focus lies on the study of the impact of digital and computational pathology on clinical workflows and patient care.

Our lab is located in the heart of Munich at the TUM Klinikum rechts der Isar (MRI), Institute of Pathology (https://www.pm.mh.tum.de/path), and is affiliated with the TUM School of Computation, Information and Technology (CIT, https://www.cit.tum.de/), the TUM School of Medicine and Health (MH, https://www.mh.tum.de/), Bavarian Center for Cancer Research (BZKF, https://www.bzkf.de), the Munich Data Science Institute (MDSI, https://www.mdsi.tum.de/), and the Munich Center for Machine Learning (MCML, https://www.mcml.ai).

The Position

We aim to extend our team with a talented and motivated postdoctoral researcher for Pathology AI and medical machine learning. As a successful candidate, you will lead and conduct research studies for automated image analysis. In particular, you will:

- Plan, develop, and implement AI/ML algorithms for pathology image analysis.
- Integrate multi-modal data (e.g., genomics, clinical data) to improve disease characterization.
- Develop cutting-edge architectures (e.g., federated learning) for medical research.
- Publish high-impact research in leading journals and conferences.
- Collaborate with medical professionals to translate research into real-world applications.
- Mentor graduate students, teach related courses, and contribute to grant writing.

Requirements

- A PhD or equivalent in a technical field such as computer science, bioinformatics, mathematics, computational life sciences, or related.
- Profound knowledge in machine learning, preferably deep learning for image data. Experience in Computational Pathology is preferred.

- A strong publication history, including but not limited to conferences such as MICCAI, NeurIPS, ISBI, ICCV, ICML, ECCV, or others.
- Proficiency in Python, TensorFlow/PyTorch, and image analysis tools and working on a computing cluster (HPC).
- Vivid Interest in interdisciplinary research, leading and working on projects with pathologists, medical experts, computer scientists, and other researchers.
- Responsible processing of medical data according to ethical standards and legal requirements.
- Fluent in English and/or German.

We Offer

- Work at the forefront of AI-powered medical research, developing novel computational models to analyze histopathological and multi-omic data.
- Opportunity to build a collaborative scientific career in computer science and medical data analysis at Germany's top-ranked university, including networking and conference participation in top-tier AI and medical conferences.
- State-of-the-art research in high-impact areas, such as cancer research and patient care, in an exciting, interdisciplinary field. Access to large-scale, high-quality pathology datasets and cutting-edge computing infrastructure.
- Collaboration with renowned scientists, pathologists, and clinicians in a stimulating and supportive research environment with groups for medical image analysis, medical data science, cBio, Radiology, nuclear medicine, molecular pathology, bioinformatics, and more.
- Opportunity to apply for 3rd party funding (DGF, BMBF, Bavarian, and TUM funding) to strengthen your career and build your own research group.
- Opportunity to participate and offer projects in various ML-Events such as TUM hackathon (https://hack.tum.de/), MDSI Data Innovation lab (https://www.mdsi.tum.de/en/di-lab/tum-di-lab/), and TUM-AI (https://www.tum-ai.com/). No must, but fun to work with teams of motivated students!
- Flexible work conditions according to your individual needs (on-site, hybrid).
- Workplace in the middle of Munich.
- Competitive compensation according to TV-L.
- 2 years full-time contract, with the option to extend.
- TUM's benefits for employees (https://www.tum.de/en/about-tum/working-at-tum/services-for-employees/).

Application

If you are interested in joining us, please send us your application with a CV, publication list, and short (!) motivation via e-mail to peter.schueffler@tum.de.

Prof. Dr. Peter Schüffler · Trogerstraße 18 · 81675 Munich, Germany · https://schuefflerlab.org

TUM is an equal-opportunity employer. TUM aims to increase the proportion of women; therefore, we particularly encourage applications from women.

The position is suitable for the employment of people with severe disabilities. In cases of substantially equal qualifications, skills, and professional performance, candidates with severe disabilities will be given preferential consideration.

Data Protection Information: As part of your application for a position at the Technical University of Munich (TUM), you submit personal data. Please note that our privacy policy is in accordance with Art. 13 General Data Protection Regulation (DSGVO).