LMU KLINIKUM

Postdoc – Artificial Intelligence and Robust Optimization in Radiotherapy (m/f/d)

Klinik und Poliklinik für Strahlentherapie und Radioonkologie

The Hospital of the University of Munich, Germany, is one of the largest and most competitive university hospitals in Germany and Europe. 48 specialized hospitals, departments and institutions harbouring excellent research and education provide patient care at the highest medical level with around 11.000 employees.

WORKPLACE	Campus Großhadern	DATE OF ENTRY	01.02.2026
WORKING HOURS	Full time	APPLICATION DEADLINE	15.01.2026
INSTITUTION	Klinik und Poliklinik für Strahlentherapie und Radioonkologie	REFERENCE NUMBER	2025-K-0446
DEPARTMENT	Research Group		

Scope of duties

In a multi-institutional research project funded by the German Federal Ministry of Research, Technology and Space, a Postdoc position investigating the use of uncertainty-aware AI models for auto-segmentation and dose accumulation in radiotherapy treatment planning is open at the Department of Radiation Oncology of the LMU Munich University Hospital (PD Christopher Kurz & Prof. Guillaume Landry) from February 2026. The candidate will collaborate with our project partners at the Fraunhofer Institute for Industrial Mathematics (ITWM) Kaiserslautern (Prof. Karl-Heinz Küfer) and the LMU Bavarian AI Chair for Mathematical Foundations of Artificial Intelligence (Prof. Gitta Kutyniok).

The project will employ state-of-the-art AI models for auto-segmentation and deformable image registration in the scope of MRI-guided adaptive radiotherapy. Focus will be set on uncertainty estimation by these models and their integration into robust radiotherapy treatment planning.

The candidate is expected to:

- Develop AI models for organ-at-risk and tumor segmentation including estimation of their epistemic and aleatoric uncertainties
- Apply AI-based deformable image registration models for uncertainty-aware dose accumulation
- Evaluate robust treatment planning approaches in close-to-clinics scenarios

Our requirements

- Highly ranked PhD in Medical Physics, Biomedical Engineering or Computer Science
- Good understanding of adaptive radiotherapy workflows and treatment planning
- Excellent programming skills in Python
- Experience in deep learning, preferably with PyTorch
- Ability to independently implement and adapt deep learning architectures
- Fluent English skills (spoken and written)
- Technical proficiency, scientific creativity, as well as strong teamwork and organizational skills

Our offer

- To apply for the position, please send your electronic application (letter of motivation, curriculum vitae, last school certificate and university degrees, PhD certificate, publication list, other qualification certificates such as TOEFL, and the contact information of two references), preferably in PDF format.
- The working place will be at the LMU Klinikum Großhadern.
- The successful candidate will work in a highly motivated and well-established research group (2 senior researchers, 2 postdocs, 10 PhD students, and MSc students) within a multidisciplinary and international network embedded in a stimulating scientific environment at LMU Munich, with a long tradition of collaboration and excellence in biomedical research and with outstanding research and clinical infrastructures.
- Remuneration is based on the Collective Agreement for the Public Sector of the Länder (TV-L) including all allowances customary in the public sector. The Postdoc position is available for 36 months.

Offers and services of the employer

- Further education and training
- Company pension scheme
- Childcare services
- Mobile work (if suitable)
- Job ticket
- Discounts
- Staff accommodation (if available)

Herr Dr.rer.nat. Kurz, Christopher

089 4400 76762

Application format

Please use the Online-Form for your application

http://www.lmu-klinikum.de/c3a844b109bfb79f

Disabled persons will be preferentially considered in case of equal qualification. Presentation costs cannot be refunded.

Please note that we cannot reimburse travel expenses incurred through interviews.

We ask you for your understanding that postal applications will not be returned, but will be destroyed in accordance with data protection regulations. The data usage information also applies to postal applications