LMU KLINIKUM

Postdoctoral Researcher for Data Analysis and Machine Learning of Multimodal Biomedical Data (m/f/d)

Institut für Schlaganfall- und Demenzforschung

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	Next Possible Date
Working hours	Full time	Application deadline	Swift
Institution	Institut für Schlaganfall- und Demenzforschung	Reference Number	2024-K-0569
Department	AG Spitzer		

Scope of duties

- We are looking for a postdoc to join the growing team of the machine learning and data analysis group at the Institute for Stroke and Dementia Research (ISD).
- Our group uses computational analysis and machine learning algorithms to identify patterns and relationships from complex, multimodal, and multiscale datasets of the brain in health and disease, with a primary focus on neurovascular and neurodegenerative phenotypes.
- Within this context, you will work on predictive and generative methods to extract disease-relevant information from multimodal omics, spatial omics, and imaging datasets.
- For example, we aim to use MERFISH, histology, and MRI data, to study how gene expression correlates with morhpolgy and what differentiates healthy from diseased tissues by employing supervised, self-supervised and unsupervised machine learning algorithms and novel spatial omics data analysis methods.
- For this, you will leverage and build up strong collaborations with experimental partners at the ISD and methodological partners at the Computational Health Center in Helmholtz Munich.
- Beyond focussing on your research projects, you will also be expected to contribute to the development of a pipeline for analysing spatial omics and other biomedical data.

Our requirements

- PhD degree in a relevant field (computational biology or neurosciences, computer science, mathematics, or similar)
- Experience in analysis of complex (multimodal / high dimensional) data
- Strong interest in neuroscience and applying data analysis and machine learning for researching disease mechanisms or improving diagnostic procedures
- Previous experience in biomedial data analysis (histology, MRI, patient data, etc) or (spatial) omics data (scRNAseq, visium, MERFISH, etc) preferred
- Familiar with concepts of machine learning (ML) and deep learning (DL); previous experience in applied ML / DL research is a plus
- Strong programming skills in Python or R
- Collaborative and self-motivated

Our offer

- We provide a highly collaborative and inspiring research environment.
- The lab is located in the brand-new Center for Stroke and Dementia Research building (CSD) with access to cutting-edge technologies in genomics, proteomics, metabolomics, immunology, molecular biology, imaging (from nano- to macroscale), and neuroscience in general.
- We are embedded within the vibrant biomedical and data science research landscape in Munich, with strong ties to the Computational Health Center in Helmholtz Munich, and with ample opportunities for local and international collaborations.
- We look forward to receiving your application consisting of a cover letter and a CV and at least two references or reference letters.
- The position is limited to 2-3 years.
- Remuneration is based on the Collective Agreement for the Public Sector of the Länder (TV-L) including all allowances customary in the public sector.

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)

Dr. Hannah Spitzer

+49 89 4400 46173

Application format

Please use the Online-Form for your application

http://www.lmu-klinikum.de/496ae6251179b62d

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