JOB VACANCY

Universitätsklinikum Essen

The University Hospital Essen is a pace setter for first-rate-medical services in the Ruhr metropolis. Every year, 225.000 patients are treated here in 26 clinics, 23 institutes and specialized centers. The over 6.000 employees offer medical care with state-of-the art diagnostics and therapies that live up to the highest international standards. Medical practice is interwoven with scientific research, directly benefiting patients who can be certain that they will receive the latest available therapies.

The **Institute for Diagnostic and Interventional Radiology and Neuroradiology** (Prof. Dr. M. Forsting) is currently seeking a

PhD student (m/f/d)
in the field of "Machine learning / Deep learning for Neuroimaging"
(Pay grade E13 TV-L / 65% - temporary employment)

The Employment is provided for 36 months to obtain a PhD degree. The pay grade classification depends on the personal and collective legal requirements. An extension of the job duration might be possible according to the maximum employment duration as given by laws regarding scientific fixed-term contracts (Wissenschaftszeitvertragsgesetz). The successful applicant will work on research and development projects focusing on predictive modelling with neuroimaging data.

Job description:

- Enhancement of MRI-processing workflows for brain connectivity analysis.
- Development of dedicated feature engineering approaches for brain network data.
- "Brain-decoding" via machine learning, based on resting-state and task-based connectivity, targeting learning dynamics and pain.
- Evaluation of the neuroscientific validity of the developed predictive models.

Job qualifications:

- University degree (master or diploma) in computer science, applied mathematics or physics; eligible candidates from other disciplines are also encouraged to apply.
- Programming / software development experience with e.g. python, R, Matlab, bash.
- Expertise in at least one of the following fields is desired:
  - analysis of biomedical data and, in particular, functional and structural MRI
  - machine learning ("classical" approaches, neural networks, corss-validation)
  - statistical methods (e.g. permutation-based techniques)
- Strong English-language writing and communication skills.

We offer:

- Working in a highly interdisciplinary environment in a recently established junior research group (https://pni-lab.github.io), linked to the "Institute of Artificial Intelligence in Medicine", University Hospital Essen (https://ai.uk-essen.de).
- Close collaboration with the Collaborative Research Center SFB 1280 (Extinction learning), funded by the Deutsche Forschungsgemeinschaft.
- Strong links to the broader international scientific community.
- Excellent research facilities: retrospective imaging data, 3T/7T MRI scanners, high performance computing (+GPU) and a dedicated in-house software code-basis.
- Enrollment in the structured PhD graduate program "BIOME" (Graduate School of Biomedical Science) and its scientific activities.

UNIVERSITÄT DUISBURG ESSEN

Offen im Denken

The University Hospital Essen is an equal opportunity employer. Female scientists are particularly encouraged to apply.
The participation in secondary employment depends on the „Hochschulnebentätigkeitsverordnung“ of North-Rhine Westphalia.
Disabled applicants will be preferentially considered in case of equivalent qualification.

Please send your application (including a one-page motivation letter with focus on experience in related topics, a full CV and two references) with reference to the tender number **798** within 4 weeks preferably by email to:

Dr. Tamas Spisak
Institute for Diagnostic and Interventional Radiology and Neuroradiology
University Hospital Essen
Hufelandstraße 55
D-45147 Essen
Germany
tamas.spisak@uk-essen.de

We use your data exclusively for application purposes in accordance with the applicable data protection regulations.
Further information can be found in the privacy statement on our homepage at: www.uk-essen.de