



**Technische Universität Berlin**



Technische Universität Berlin offers an open position:

## **Research Assistant - salary grade 13 TV-L Berliner Hochschulen - For qualification**

part-time employment may be possible

The Berlin Institute for the Foundations of Learning and Data (BIFOLD) at the TU Berlin is looking for a researcher for the independent research group "Intelligent Biomedical Sensor Technology (IBS)" headed by Dr.-Ing. Alexander von Lühmann to participate in interdisciplinary projects focusing on the development of novel methods for the identification and extraction of robust multimodal biomarkers for neuronal and peripheral physiological activation.

The IBS research group develops miniaturized wearable neurotechnology and body-worn sensors, as well as machine learning methods for sensing signals from the brain and body under natural conditions of the everyday world. The group focuses on multimodal analysis of physiological signals in diffuse optics (e.g. fNIRS) and biopotentials (e.g. EEG).

### **Faculty IV - The Berlin Institute for the Foundations of Data and Learning (BIFOLD)**

**Reference number:** IV-112/23 (starting at the earliest possible / for 3 years / closing date for applications 24/03/23)

#### **Working field:**

- Independent and responsible research on ML-based methods and models for robust neurotechnology in mobile applications.
- Exploration of models and methods for physiology-informed multimodal brain imaging and single-trial analysis
- Development of multimodal machine learning-based methods for signal analysis, signal decomposition and identification of physiological transfer functions
- Scientific publishing, pursuit of doctoral degree is possible.
- Teaching duties

#### **Requirements:**

- Successfully completed university degree (Master, Diplom or equivalent) in computer science, engineering, or a similar technical subject. Doctoral degree desirable but not required.
- Very good knowledge of machine learning or biosignal processing methods, especially time series analysis, unsupervised source separation, or deep neural networks
- Very good programming skills (especially in Python, also Matlab), experience with ML and linear algebra libraries (NumPy, sklearn, PyTorch, TensorFlow, etc.), and version control tools
- Very good English skills, both written and spoken; the ability to teach in both German and English is required
- Ability to work in a team, good communication skills
- Creativity, strong analytical and conceptual skills
- You are intrinsically interested and enjoy cutting-edge research, have a high level of initiative, self-motivation, and are results-oriented

plus:

- Experience in scientific work
- Practical experience in experimental acquisition of multivariate biosignals (e.g. EEG, fNIRS)
- Hands-on mentality and experience with electrical engineering or experimental setups
- Interdisciplinary and collaborative project experience

#### **Research Environment**

- Exciting and challenging research areas
- Internationally renowned and dedicated team
- Close cooperation with many renowned research institutions

Please send your **written** application, stating the **reference number**, with the usual application documents to the **Technical University of Berlin - The President - Fakultät IV, Institut für Softwaretechnik und Theoretische Informatik, BIFOLD - IRG Lühmann, Dr. Alexander von Lühmann, MAR 4-1, Marchstr. 23, 10587 Berlin** or by e-mail (a PDF file, max. 5 MB) to: **jobs@bifold.berlin**.

For reasons of cost, application documents sent by post will not be returned. Please submit copies only.

By submitting your application via email you consent to having your data electronically processed and saved. Please note that we do not provide a guarantee for the protection of your personal data when submitted as unprotected file. Please find our data protection notice acc. DSGVO (General Data Protection Regulation) at the TU staff department homepage: [https://www.abt2-tu-berlin.de/menue/themen\\_a\\_z/datenschutzerklaerung/](https://www.abt2-tu-berlin.de/menue/themen_a_z/datenschutzerklaerung/) or quick access 214041.

To ensure equal opportunities between women and men, applications by women with the required qualifications are explicitly desired. Qualified individuals with disabilities will be favored. The TU Berlin values the diversity of its members and is committed to the goals of equal opportunities.

The vacancy is also available on the internet at  
<https://www.personalabteilung.tu-berlin.de/menue/jobs/>

