



Technische Universität Berlin



Technische Universität Berlin offers an open position:

Research Assistant - salary grade E13 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-340/23 (starting at the earliest possible / for 3 years / closing date for applications 23/06/23)

Working field: Independent and responsible research on wearable instruments and methods for robust neurotechnology in mobile applications.

- Design and implementation of innovative wearable and miniaturized opto-electronic hardware for multimodal brain-body imaging using diffuse optics and biopotentials.
- Development of multimodal machine-learning-based sensor fusion methods for signal analysis, signal decomposition and inference from wearable physiological sensor data
- Scientific publishing, pursuit of doctoral degree is possible.
- Teaching duties

Requirements:

- Successfully completed university degree (Master, Diplom or equivalent) with excellent grades in electrical or biomedical engineering, embedded systems engineering, opto-physics, or a similar technical subject. Doctoral degree desirable but not required.
- Strong competence in the development of (opto)electronic circuits and layouts from circuit diagram to pilot series (experience with CAE and CAD software).
- Sound knowledge of microcontrollers and mixed-signal circuits
- Hands-on mentality in dealing with electronic components from design, soldering to handling measurement and debugging equipment.
- Very good programming skills (especially in Ansi-C/C++ for firmware) and version control tools
- Very good English skills, both written and spoken
- The ability to teach in German as well as in English is a prerequisite
- 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

It's a plus:

- Experience in scientific work
- Practical experience in experimental acquisition of multivariate biosignals (e.g. EEG, fNIRS, ...)
- Sound knowledge of Python (numpy, scipy, pandas), Matlab and/or LabView.
- experience in time series- and single-trial analysis and processing of bio-signals
- 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 complete application documents (cover letter, CV, certificates/references) 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.

The application documents will not be returned. Please only submit copies.

By submitting your application via email you consent to having your data electronically processed and saved. Please note that we do not provide a guaranty 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-t.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/>

