Institute of Medical Informatics (UKA, team Biosignals) in collaboration with the Department of Epileptology and Neurology (UKA) is looking for a PhD candidate or Research Fellow (WiMi) for a BMBF-funded project Mondy. The project is focused on the integration of medical data from several mHealth projects. This research position project will be mainly concerned with one part of Mondy, which is monikit (see monikit.com for details) - a tool for automatic detection of epileptic seizures. monikit consists of a wearable ECG device and a mobile app for data analysis, where advanced algorithms based on signal processing and deep learning are already implemented. The development was done on large multi-center database, which is available for Mondy research as well.

The main goal of the PhD candidate will be to use the existing project status as a starting point and further improve the algorithms via implementing more personalized feature extraction and the in-depth analysis of the algorithm performance for different patient groups. The algorithm changes need to be implemented in the mobile app, therefore basic knowledge of Android app development is necessary.

Requirements
- Master degree in Computer Science or similar (Mathematics, Data Analysis, Biomedical Engineering etc.)
- Excellent programming skills
- Experience with data analysis (ideally electrophysiological or other time-series data)
- Hands-on understanding of machine learning algorithms
- Experience with Python, Tensorflow/Keras, SQL
- Basic knowledge of Android App development (Java, Kotlin) and willingness to learn more
- Ability to learn fast and work independently
- Interest in medical data research

What do we offer
- 100% TVL-13 scale for 2 years, part-time possible
- No structural teaching obligations, co-advising student projects will be possible
- Unique experience in an interdisciplinary project where you will be directly in contact with physicians working in epileptology clinics
- monikit is an established startup, so you get both academic and business experience
- There is a possibility to obtain a doctoral degree in theoretical medicine

Deadline 15.02.22

Please send your CV, short motivation letter and study record to Dr. Ekaterina Kutafina, ekutafina@ukaachen.de