Technical University of Munich
TUM School of Computation, Information and Technology
Chair of Micro- and Nanosystems Technology

HiWi/student research assistant

Smart Sensor Patch for Medical Applications

We are developing various applications in the field of hardware-related data analysis. In particular, this involves running AI algorithms on microcontrollers (on-the-edge) and analyzing sensor data directly in order to trigger an action only when certain data patterns are detected. This can be thought of as a smartwatch in which the movement data is analyzed directly and the display only lights up when movement is detected. Possible areas of application for are in medical technology. Specifically, we are working on analyzing vital data in embedded systems, such as a sensor patch. This can be used for the early detection and prevention of severe illnesses.

Tasks

We are looking for support in electronics and system development as well as programming. The exact focus of the work can still be discussed. Possible Tasks:
- Bluetooth interface for a medical wearable with a smartphone app
- Development of a smartphone app for data display
- Programming of embedded systems (C programming)
- Developing machine learning algorithms for on-the-edge systems
- Developing and testing highly integrated microelectronics for a medical wearable

Prerequisites

- Necessary: Bachelor in Engineering, Math, IT or similar
- Necessary: Fluent in English or German
- Necessary: First experience with programming
- Optional: Experience in electronics, C-programming, App development

Information

- minimum of 2-3 working days per week
- the position is available as of now

Contact

The position is additionally supervised by the Fraunhofer EMFT. If you are interested in this position, please contact Lorenz Grünerbel via email and send a short CV.

Supervisor: Prof. Amelie Hagelauer
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