Research Affiliation

University of West Bohemia

The University of West Bohemia in Pilsen (UWB) is a medium-sized university in the Czech Republic (CR),the only public higher education institution in the Pilsen Region. The university has currently 12,000 students, nine faculties with almost sixty departments, and two university institutes. It offers a diverse range of bachelor's, master's, and doctoral study programs, and it has a long tradition in technical education (mechanical engineering, electrical engineering, informatics, and cybernetics).[1]

Faculty of Applied Sciences

At the Faculty of Applied Sciences of the UWB, six units are currently established, in which the scientific research, study, and educational activities of the faculty, in the given scientific disciplines, take place. Each of the unitsconsists of a department and a corresponding research unit integrated within the faculty research center NTIS - New Technologies for the Information Society.
The main goal of each unit is to take care of the professional level of specific scientific disciplines. The most effort is paid to the quality of education, research and development activities..[2]

New Technologies for the Information Society

The research topics of the centre carry out research and development in technical fields such as cybernetics, informatics, and mechanics, which are crucial for the development of information, communication, and mechatronic technologies. The Centre is also oriented towards the development of natural sciences, dominated by physics, mathematics, and geomatics. Research topics in the natural sciences include in particular the development of new thin-film materials and plasma sources, the development of new mathematical structures, and the collection and processing of spatially defined data.[3]

Neuroinformatics research group

Neuroinformatics research group measures and evaluates electrical activity in the human brain and investigates human behavior, mainly in stressful and repetitive situations. The group provides services for the collection, storage, description, analysis and sharing of large data sets, particularly the signals from EEG, ECG and other bio sensors. The group specializes in the collection and evaluation of brain event related potentials (ERP).[4]

Jan Rychlik

I am a student of the medical informatics study program and a member of the neuroinformatics research group. I became interested in medical informatics and EEG data four years ago. In my first job, I measured EEG and EMG potentials to improve rehabilitation exercises. In my bachelor thesis, I transformed the collected EEG data in the university laboratory into the NIX open-source data format. Last year, I analyzed the tools and workflows for processing and analyzing EEG data.
 Currently, I am working on my master's thesis c: Automatic detection of sleep spindles by deep learning methods. The details are described in the submitted project.

[1] Univerzity of West Bohemia: https://www.zcu.cz/en/University/About-us/index.html

[2] Faculty of Applied Sciences: https://www.fav.zcu.cz/en/Faculty/About-us/index.html

[3] NTIS: https://www.ntis.zcu.cz/en/

[4] Neuroinformatics research group: http://neuroinformatics.kiv.zcu.cz/