

ESR11

ESR11 project title- Low-latency machine learning and data mining for wearable devices

Lead beneficiary (place of employment) – Brno University of Technology, Czech Republic

Supervisory team - Prof. Zdenek Smekal and Assoc. Prof. Radim Burget (BUT), Prof. Evgeny Koucheryavy and Assistant Prof. Sergey Andreev (Tampere University, Finland), and industrial mentors: Dr Milan Simek and Dr. Lubomir Mraz (Sewio Networks, Czech Republic)

Project tasks and objectives: To develop new accurate and fast algorithms that can effectively learn from data to execute various difficult tasks and to identify similarities, outliers or correlation within wide range of input signals harnessed from wearables; to investigate both structured and unstructured data through deep neural networks; to apply artificial intelligence processing in order to open new perspectives and to significantly increase the diversity of applications of wearable devices; to develop a machine learning platform for applications such as healthcare, industry and services. The ESR will also have the possibility to participate in the Advisory Board of the network (two ESRs are selected annually by voting among the 15 ESRs of the network). The ESR will also be involved in social media promotion of the network, such as Webropol surveys, Facebook and LinkedIn groups, Youtube video channels, Twitter and blogging.

Mobility/cross-country and cross-sector secondments including industrial training: 12 cumulated months at Tampere University, Finland and 2 months of industrial experience at Sewio Networks, Czech Republic

Eligibility: MSc degree in a relevant degree obtained after Sep 2015 and not having lived or worked more than 12 cumulative months in Czech Republic during Aug 2016-Aug 2019.

Preferred starting date- September 2019

Trial period - 6 months

*Target degree –*joint PhD degree from Brno University of Technology, Czech Republic and Tampere University, Finland

Approximate gross salary – about 2400 EUR/month for researchers without family (and about 2700 EUR/month for researchers with family)

Czech Republic was ranked in 2016 among the top ten best countries as expat destinations by Expat Insider, according to Quality of Life, Ease of Settling In, Working Abroad, Family Life, Cost of Living, and Personal Finance.

Conveniently situated close to three capitals - Prague, Bratislava and Vienna, Brno, the second largest city in the Czech Republic, is known as a centre of science, research, innovations and startup hub. With more than 20 % of its population being students of six public universities, **Brno** is often dubbed "a city with student spirit". Its citizens as well as visitors are offered numerous cultural, sports and leisure activities. Brno City is among top student cities in the world according to [QS Best Student Cities Index](#).

Established in 1899 by Emperor Franz Joseph I, **Brno University of Technology (BUT)** is the city's oldest university. Today it offers high-quality studies in engineering, scientific, economic and artistic fields. With its **20 thousand students** and [8 faculties](#), BUT is the nation's **largest technical university**. Focusing on science and research, the university now has [five of its own research centres and being engaged in two centres of excellence](#). In recent years, BUT has been among the world's best universities according to **international rankings** [QS World University Ranking](#) and [THE World University Ranking](#). As an EU member, Brno University of Technology was the country's second university to receive both ECTS Label and Diploma Supplement certificate. The university focuses on [cooperation with both EU and non-EU partners](#), has over 600 partnership agreements.

Information about the industrial partner – Sewio Networks is a Czech-based SME innovative company delivering market-proved real-time location platform as fundamental technology for digitalization of movement in Industry 4.0, retail and sport markets. By utilising comprehensive knowledge of wireless technologies, Sewio Networks location platform improves operational efficiency, reduces costs and shows an oversight of what is happening in relevant workplaces in real time.

Additional links

<https://www.vutbr.cz/en/international>

<https://news.expats.cz>

<https://www.youtube.com/watch?v=mobLHeKcK-4>