

**Fakultet tehniških nauka - Departman za računarstvo i automatiku
Odsek za primenjene računarske nauke i informatiku**

u okviru programa razmene nastavnog osoblja ERASMUS

organizuje pozvano predavanje

**Cognitive Load Inference for
Ubiquitous Computing Adaptation**

Predavač:

**Dr Veljko Pejović, docent
University of Ljubljana,
Faculty of Computer and Information Science, Ljubljana
Slovenia**

Mesto i vreme:

FTN, I sprat, Sala 106, 6. jun 2019. u 15.00h

Sažetak:

From not disturbing a focused programmer, to entertaining a restless commuter waiting for a train, personal ubiquitous computing devices could greatly enhance their interaction with humans, should they only be aware of the user's cognitive load. While mobile sensing and machine learning lead to impressive advances in the inference of human movement, physical activity, routines, and other behavioural aspects, inferring cognitive load remains challenging due to a subtle manifestation of a user's mental engagement via vital signal reactions. These signals are often captured with obtrusive, expensive, purpose-built equipment, preventing seamless cognitive load inference for human - ubiquitous computing interaction adaptation. In our work we aim to enable large-scale unobtrusive cognitive load inference. In the talk I will present our experiences from three different user studies in which we built and evaluated cognitive load inference models relying on data coming from a commodity smartphone, a wearable sensing device, and a software-defined-radio-based wireless radar. Finally, I will present our guidelines for future efforts in cognitive load inference and argue for closer interdisciplinary collaboration in this exciting research domain.

O predavaču:

Dr Veljko Pejović is an assistant professor at the Faculty of Computer and Information Science, University of Ljubljana, Slovenia. He completed his PhD in computer science at the University of California, Santa Barbara, USA in 2012 on the topic of resource-efficient wireless communication for rural areas. From 2012 to 2014 Dr Pejović worked as a research fellow at the University of Birmingham, UK in the area of mobile computing and sensing. His work on modelling users' movement and communication behaviour from mobile call records has won the 2013 Orange Data for Development Challenge, while his work on developing machine learning models of interruptibility based on sensor data resulted in the best paper nomination at the 2014 ACM UbiComp conference. He is interested in mobile sensing, particularly for human behaviour inference, and wireless and resource-efficient mobile computing.