HORIA ALEXANDRU MAIOR

http://www.nottingham.ac.uk/~psxhama
School of Computer Science, University of Nottingham, NG8 1BB, UK
horia.maior@nottingham.ac.uk

EDUCATION

University of Nottingham, UK *2012-2016*
Multidisciplinary PhD Researcher at the Mixed Reality Lab & Computer Science
Horizon Digital Economy Research Centre for Doctoral Training
Thesis: *"Real-Time Physiological Measure and Feedback of Workload using fNIRS"*

Swansea University, UK *June 2012*
B.Sc. in Computer Science
Dissertation: Modelling and Simulation of Railways Signalling *"Safe Trains - a CSP Approach"*
Award: First class honours degree

RESEARCH INTERESTS

Brain and Physiological data use for Human Computer Interaction

My research lies in the intersection between Human-Computer Interaction (HCI), Brain-Computer Interface (BCI), and Human Factors. I am looking into the integration of non-invasive brain monitoring devices, such as functional Near Infrared Spectroscopy (fNIRS), in the field of HCI. More specifically, I am interested in how we can use such devices to sense physiological responses to human cognition and mental workload, and use this continuous, quantitative measure in real time for HCI lab based evaluation.

- Continuous involvement with the HCI community (often at ACM CHI - the top conference for Human-Computer Interaction).
- Involved in the Academic Review process for multiple conferences - Associate Chair at ACM-CHI LBW 2016, ACM-CHI (2017, 2016, 2015), UIST 2016, ACM-CHIPLAY 2014, IEEE CASE 2014.
- Memberships - Association for Computing Machinery (ACM), Chartered Institute of Ergonomics and Human Factors.

LATEST PUBLICATIONS - PEER REVIEWED CONFERENCE AND JOURNAL PAPERS

Maior, H.A., Wilson, M.L., Sharples, S. *Workload Alerts - Using Physiological Measures of Mental Workload to Provide Feedback during Tasks*. (Under Review) ToCHI2017 Transactions on Computer-Human Interaction.

Muralidharan, A., **Maior, H.A.**, and Rao, S. *A self-governing and decentralized network of smart objects to share electrical power autonomously*. (2016) IN PRESS: Springer Open Journal on Infrastructure Complexity.

Lukanov K., **Maior, H. A.**, and Wilson, M. L. *Using fNIRS in Usability Testing: Understanding the Effect of Web Form Layout on Mental Workload.* In: CHI'16 ACM SIGCHI Conference on Human Factors in Computer Systems, San Jose, California, May 2016.(Acceptance rate 20%)

Maior, H. A. Pike, M., Wilson, M. L., and Sharples, S. *Examining the Reliability of Using fNIRS in Realistic HCI Settings for Spatial and Verbal Tasks.* In: CHI'15 ACM SIGCHI Conference on Human Factors in Computer Systems, Seoul, Korea, April 2015. (Acceptance rate 20%)

Pike, M., **Maior, H. A.**, Porcheron, M., Sharples, S. and Wilson, M. L. (2014). *Measuring the effect of Think Aloud Protocols on Workload using fNIRS.* In: CHI'14 ACM SIGCHI Conference on Human Factors in Computer Systems, April-May 2014, Toronto. (Acceptance rate 20%)

AWARDS, HONOURS AND GRANTS

- £6000 Grant - Postgraduate Ingenuity Prize for BEST New Business Idea
- £1000 Travel Grant from the School of Computer Science, University of Nottingham. (2016)
- £1000 Travel Grant from the School of Computer Science, University of Nottingham. (2015)
- £800 University of Nottingham - Postgraduate Travel Grant Competition. (2014)
- Awarded a place at Digital Economy Web Science and Big Data Analytics, July 2015.
- Awarded a place at Digital Economy Summer School: Digital Revolutions, Oxford, July 2013.

TECHNICAL STRENGTHS

Computer Languages	Java, JavaScript, AngularJS, PHP, C#, C/C++, MySQL etc
Programming environments	Visual Studio, NetBeans, Eclipse, Webstorm, PHPStorm
Professional Software	Latex Document Writing, Statistics SPSS, Adobe Illustrator
Hardware	EEG, fNIRS Brain Scanner, Arduino, Raspberry Pi

WORK EXPERIENCE

Postdoctoral Research Fellow Sep 2016 - present
University of Nottingham *Wayward Project*

· This project investigates the use techniques that capture doctors workload, to learn more about out of hours secondary care, and to improve tasking and tasking allocation to doctors.

Lecturer. Lab Demonstrator. Dissertation Supervisor Sep 2014 - present
University of Nottingham *School of Computer Science*

· Lecture (2016): G51FSE Introduction to Software Engineering.
· Supervision (2016): "Evaluating Workload through Physiological Measurements using a Sensory Device".
· Lecture (2015): G54MXR Mixed Reality: Brain Computer Interfaces for HCI research.
· Supervision (2015): HCI Prize for the Best Masters Dissertation in Computer Science. Title: "Using fNIRS in Usability Testing: Understanding the Effect of Web Form Layout on Mental Workload"
· Lab Demonstrator (2014-2016): G54PRG Programming (c,c++), G51CSA Computer Systems Architecture, G51FSE Introduction to Software Engineering (Java)

Chief Technology Officer Feb 2015 - present
www.rateddoctor.com *Nottingham*

· Designed and Developed an Online platform that bring patients and specialists doctors together, supporting patients when choosing the right doctor for them.

Research Intern Jan 2014 - May 2014
IIIT-Bangalore and Horizon Digital Economy Research Hub *Electronic City, Bangalore, India*

· Digital Economy Research based in Bangalore (India), working on The INTERNET of THINGS and the Smart Grid Project.
· Publication: **Maior, H. A**. and Rao, S. *"A Self-Governing, Decentralized, Extensible Internet of Things To Share Electrical Power Efficiently. In IEEE CASE 2014"*

Invensys Rail and Swansea University June 2011 - Sep 2011
Research Intern *Swansea, UK*

· Modelling Railways Safety and Time simulating Capacity using the Formal Language CSP (communicating sequential processes)

Web developer / Software Engineer Sep 2014 - June 2015
AMPsuite LTD *Nottingham*

· Building web-based client-focused software tools for Records Label companies across the globe.