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Education and research

University of Zagreb, Croatia

- Postdoctoral fellowship at Montreal Polytechnic, Canada, QC, January 2017
- Ph.D. Information and Software Engineering, April 2016

Thesis: *A framework for allocation of software components onto a heterogeneous computing systems*

Advisers: Neven Vrčec, University of Zagreb, Croatia and Ivica Crnković, Chalmers University of Technology, Sweden.

- M.A. Information and Software Engineer (*Cum Laude*), July 2010

Thesis: *Software Development for Robot Platforms*

- B.A. Information Systems (*Cum Laude*), July 2008

Mälardalen University, Sweden

- External PhD Student – Project Associate

Project: Ralf3 – Software for Embedded High Performance Architectures, 2012 – 2014

Employment history

- 2017 (January) – today: Postdoctoral researcher, Montreal Polytechnic, Canada, QC, January 2017
- 2016 (April) – today: Postdoctoral fellow (sabbatical), Faculty of organization and informatics, University of Zagreb, Croatia
- 2011 - 2016: Teaching/research assistant, PhD student, Faculty of organization and informatics, University of Zagreb, Croatia
- 2010 - 2011: Software Developer at Center for Information Systems development, University of Zagreb, Croatia

References

dr. Ivica Crnkovic, professor
Software Engineering Division,
Computer Science and Engineering
Chalmers University of Technology, Sweden
E: ivica.crnkovic@chalmers.se

dr. Lars Asplund,
CEO at Robyn Robotics AB, Sweden
Chairman of the Unibap, AB, Sweden
Mälardalen University, Sweden, Professor Emeritus
E: lars.asplund@mdh.se

dr. Mikael Ekström, assoc. professor
Division of Intelligent Future Technologies,
Mälardalen University, Sweden
E: mikael.ekstrom@mdh.se

Publications

- [1] I. Švogor, I. Crnković, N. Vrček. An Extended Model for Multi-Criteria Software Component Allocation on a Heterogeneous Embedded Platform. *Journal of Computing and Information Technology*, 21(4):211–222, 2013.
- [2] I. Švogor. An initial performance review of software components for a heterogeneous computing platform. *ECSAW '15 Proceedings of the 2015 European Conference on Software Architecture Workshops*, ACM, 2015.
- [3] I. Švogor; J. Carlson. SCALL: Software Component Allocator for Heterogeneous Embedded Systems. *ECSAW '15 Proceedings of the 2015 European Conference on Software Architecture Workshops*, ACM, 2015.
- [4] I. Švogor, I. Crnković, N. Vrček. Multi-Criteria Software Component Allocation on a Heterogeneous Platform. *Proceedings of the ITI 2013 35th International Conference on Information Technology Interfaces*, IEEE Region 8, 2013.
- [5] N. Vrček, I. Švogor, P. Vondra. Social Network Analysis and Software Evolution: A Perspective Method for Software Architecture Analysis? *Proceedings of the ITI 2013 35th International Conference on Information Technology Interfaces*, IEEE Region 8, 2013. t
- [6] I. Švogor, T. Kišasondi. Two Factor Authentication using EEG Augmented Passwords. *Proceedings of the ITI 2012 34th International Conference on Information Technology Interfaces*, IEEE Region 8, 2012.

Awards & Honours

Awards

- University of Zagreb Rectors Award, 2009
- Faculty of Organization and Informatics Deans Award, 2009, 2010
- Best student mentorship award at Faculty of Organization and Informatics, 2015
- Best cooperation between Academy and Community Award, Croatian Ministry of Internal Affairs, 2015

Scholarships

- Croatian Ministry of Science Education and Sport, Research Assistant position (2011 – 2017)
- Malardalen University Sweden, Ralf3 Project – External Researcher Scholarship (2012 – 2014)

Competitions

- Microsoft Imagine Cup Finals, Cairo, Egypt 2009, Prize for best mobile app
- AUVSI RoboSub Autonomous Underwater Robot Challenge, San Diego, CA, USA, 2013, 2014, Semifinal entry (responsible for visual servoing and software architecture).

Professional Certificates

- Coursera course – University of Pennsylvania: Areal robotics, 2016
- Microsoft Certified Professional, TS:505, 2010

Teaching and professional experience

University of Zagreb, Croatia

- Software Engineering – *Laboratory instructor (and a coauthor lab. text materials)*: late undergraduate course focusing introduction to software engineering. The students are thought the theory of software development cycle and are required to develop a software product. In teams of three students, they are required to create a UML specification and database design, and along with the project and technical documentation deliver the software product in C#.
- Software Analysis and Design – *Laboratory instructor (and a coauthor lab. text and wiki materials)*: early masters study course focusing on software architecture of a software product with emphasis on software reusability and maintainability. Students are required do develop a mobile application, and deliver the full documentation (including documenting code, the project, the SCRUM procedure and GIT). The platform of choice is Android.

Professional / technical experience

- Experienced in C# for Windows desktop development
- Experienced in Java development, specifically for Android (including popular libs., e.g. Retrofit, ActiveAndroid, GSON, etc.) and Linux.
- Some experience with embedded development in C, C++ and Ada (Arduino multitasking libraries and PID control).
- Some experience with OpenCV (for object detection and visual servoing), OpenCL (for GPU development).
- Some experience in robotics (for Ph.D. thesis, custom mechanics, electronics and software was made).
- Limited experience with Python, Mathematica and Minitab (mainly for data analysis, visualization and scientific calculations).

Projects

University of Zagreb, Croatia

Scientific projects:

- Interoperability of information infrastructure, Croatian Ministry of Science (2011 - 2013)
- SiS Catalyst, FP7 (2010-2011)
- *Frequent participation on teams for project applications (most successful is positively evaluated, but unfortunately unfunded Horizon2020 project, between Chalmers University, Faculty of organization and informatics and L'Aquila University – Twinning in Software Engineering Research, Twister.)*

Professional and short term projects:

- Inhouse (Faculty of Organization and Informatics) projects: (software development, web development, participation on a strategic development committee, committee for quality, etc.).
- Scientific popularization: StratoberryPi (successful launch of RaspberryPi to stratosphere), FO1 (phone from off-the-shelf components), etc.
- Community outreach: Bicycle registration system development with Croatian Ministry of Internal Affairs and the Town of Varaždin, high-school Android development textbook coauthor through Heureka, an EU funded project, etc.

- TiWo: from scratch development of a tracked robot with a heterogeneous computing platform (CPU, GPU, FPGA) and a component based software architecture (University funded support for PhD students).

Mälardalen University, Sweden

- RALF3: Software for Embedded High Performance Architecture, funded by the Swedish Foundation for Strategic Research. (2012 – 2014)

Previous employments

- 10.09.2010 – *present*: Faculty of Organization and Informatics, University of Zagreb, Pavlinska 2, 42000 Varadin, CROATIA.
 - 10.09.2010 – 31.05.2011: Software developer
 - 01.06.2011 – 31.10.2016: Teaching and a young research fellow
 - 01.11.2016 – present: Postdoctoral fellow

Personal

Research interests

- Software Architecture
- Cyber-Physical Systems
- Software for Autonomous Systems (areal and underwater – software algorithms for control and kinematics)

Languages

- Croatian, native language
- English, proficient user
- German, basic user