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EDUCATION

MSc in Physics
Oct. 2012 - Sep. 2017
University of Zagreb, Faculty of Science
Integrated 5 year programme, research-oriented study of physics;
graduated **magna cum laude** with weighted grade average: 4.83/5.00 (300 ECTS),
thesis title: *On different thermodynamical pictures of ensembles of complex networks*,
supervisor: Vinko Zlatić, PhD (vinko.zlatic@irb.hr)

MSc in ICT
Oct. 2011 - Jul. 2013
University of Zagreb, Faculty of Electrical Engineering and Computing
Graduate 2 year programme, profile: Telecommunications and Informatics;
graduated **magna cum laude** with weighted grade average: 4.93/5.00 (122 ECTS),
thesis title: *A Dynamic and Elastic Publish-Subscribe Service for the Cloud Environment*,
supervisor: Professor Ivana Podnar Žarko (ivana.podnar@fer.hr)

BSc in Computing
Oct. 2008 - Jul. 2011
University of Zagreb, Faculty of Electrical Engineering and Computing
Undergraduate 3 year programme; module: Information Processing;
graduated with weighted grade average: 4.92/5.00 (193 ECTS), thesis title: *Connecting diagnostic devices to smartphones with Android operating system using Bluetooth protocol*, supervisor: Professor Vedran Bilas (vedran.bilas@fer.hr);
two **Faculty Council Special Recognitions** "Josip Lončar", for top 1% performance in the first year and overall

Additional courses
Functional programming principles in Scala December 2012
Practical aspects of construction of electronic devices August 2010

Scholarships
City of Zagreb Scholarship 2010/11 - 12/13 & 2014/15 - 16/17
Awarded to the best ~100 3rd or higher year students from Zagreb until the end of their Master programmes (50% of the average Zagreb salary paid monthly)
University of Zagreb Scholarship 2013/14
Awarded for exceptional academic achievement in the previous year
National Foundation for the Support of Pupil and Student Standard Scholarship 2009/10
Awarded for exceptional academic achievement in the previous year

WORK EXPERIENCE

Postgraduate Researcher (biophysics) Feb. 2018 - Jun. 2019	University College London, Department of Physics and Astronomy and Institute for the Physics of Living Systems Investigated amyloid aggregation and other amyloid-related processes using coarse-grained modelling and computer simulations.
Postgraduate Teaching Assistant Sept. 2018 - Jan. 2019	University College London, Department of Physics and Astronomy Explained theory and guided students in conducting experiments on the first-year physics laboratory course (PHAS007: Practical Skills 1C).
Research Intern Jul. 2012 - Sept. 2012	Digital Enterprise Research Institute, National University of Ireland, Galway Worked on implementing HDT RDF compression (www.rdfhdt.org) over hard-drive using noSQL databases (JDBM3, BerkeleyDB) in Java.
Student Teaching Assistant Sept. 2009 - Jan. 2011	University of Zagreb, Faculty of Electrical Engineering and Computing Marked students' homework and assisted with teaching on courses <i>Mathematics 1</i> , <i>Mathematics 2</i> and <i>Mathematics 3-C</i> .

VOLUNTEERING EXPERIENCE

Team Leader Juror Feb. 2019 - Jul. 2019	32nd International Young Physicists' Tournament (IYPT), Warsaw Co-lead Croatia's team of five high-school students in solving practical physics problems (theory and experiment) and served as a juror for the competition.
Organizing Committee Member Oct. 2013 - Aug. 2015	30th International Conference of Physics Students (ICPS), Zagreb Organised 7 days of accommodation for over 300 participants, invited 3 international speakers, arranged a venue for more than 90 lectures and managed 15 volunteers.

COMPUTER SKILLS

Languages	Java, Python, C/C++, Scala; HTML, CSS, PHP, JSP; bash, MatLAB
Platforms	Linux, Windows, Android
Programs/Tools	Office, LaTeX, Eclipse, ...

MISCELLANEOUS

<i>Previous research</i>	Metaheuristics, Statistical physics, Complex systems, Biophysics
<i>Current interests</i>	Education, Political theory, Physics (Quantum foundations, Philosophy of physics), Mathematics (Logic, Philosophy of mathematics)
<i>Hobbies</i>	Rock climbing; Drums, Piano; Tinkering; Poker
<i>Associations</i>	Croatian Physical Society
<i>Languages</i>	Croatian · Native English · Proficient (IELTS 8.5/9) German · Elementary (A1/A2)
<i>Driving licence</i>	B category

APPENDIX A - PUBLICATIONS

- [1] **Recommendation of YouTube Videos**, M. Brbić, E. Rožić, I. Podnar Žarko; Proceedings of the 35th MIPRO International Convention, 2012
- won the **best student paper** award
- [2] **The Edges-as-Particles Thermodynamical Picture Of Networks**, E. Rožić, V. Zlatić; in preparation
- [3] **A hybrid MD/MC approach for coarse-grained multi-state molecules: The case of amyloids**, E. Rožić, A. Šarić; in preparation
- [4] **A coarse-grained model of amyloidogenic proteins for LAMMPS**, E. Rožić, A. Šarić; in preparation

APPENDIX B - NOTABLE PROJECTS

Python, C/C++

The lammps_multistate_rods library

The result of my postgraduate (PhD) research ([github link](#)). It is a Python library for defining multi-state coarse-grained rod models and running hybrid MD/MC simulations with them using LAMMPS through the Python wrapper for its library.

Keil MDK, Python

A Proton Precession Magnetometer

A 3 person project for the “Advanced Physics Lab 2” course whose aim was to construct a toroidal PPM from scratch. I assisted in making a custom electronic circuit on a PCB, programmed an STM32F072RB MCU on a Discovery board and made a driver program in Python to communicate with the MCU over USB.

Java

A Dynamic and Elastic Publish-Subscribe Service for the Cloud Environment

Project for the Master thesis. A highly parallel, multi-threaded, multi-process publish/subscribe over TCP/IP system designed for high load and written in Java (~10,000 LoC). Its code is the base of the CUPUS module of the OpenIoT project ([github.com/OpenIoTOrg](#)).

Java, Android

Connecting Diagnostic Devices and Mobile Devices with Android Platform via Bluetooth

Project for the Bachelor thesis. A multi-threaded Android application for communication with and use of various personal medical devices, e.g. spirometers, over Bluetooth; part of a collaboration project with the industry.

Java

A System for Electronic Voting in Local Elections

Project for the “Software Design” course. A client/server system with communication over TCP/IP and voter and administrator roles, written in Java with MVC approach (~3500 LoC). The client has a nontrivial Swing GUI and the server uses an SQL database.

Java, OpenCV

Tracking moving objects with a movable camera

A 5 person project for an undergraduate course with me as project leader. We used OpenCV (Java wrapper) to recognize objects on images and follow them with a

360° network dome camera where FIR and Kalman filters were experimented with for movement prediction.

Java

A P2P application for backing-up data on a local network

A 4 person project for an undergraduate course. Written in Java (~5000 LoC) using MVC approach. Rich GUI interface, TCP & UDP P2P encrypted communication and database use with Hibernate.