

PERSONAL INFORMATION

Matija Piškorec

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Spol Male | Date of birth 27.8.1986 | Nationality Croat

WORK EXPERIENCE

July 2013 onwards (expected to finish in July 2019)

Research assistant at the Ruđer Bošković Institute, Zagreb, Croatia

Ruđer Bošković Institute, Bijenička 54, Zagreb, Croatia

- Working in the group of Tomislav Šmuc on problems considering complex networks, machine learning, data mining, knowledge discovery. Working on FP7 project „Foundational Research on Multilevel Complex Networks and Systems“ (MULTIPLEX) and project of Croatian Science Foundation „Machine Learning Algorithms for Insightful Analysis of Complex Data Structures“. Data collection, analysis and modeling of information spreading in online social networks.

Type of business or sector Research institute

March 2013 – June 2013,
March 2014 – June 2014,
March 2015 – June 2015,
March 2016 – June 2016,
March 2017 – June 2017

Assistant on the course “Machine learning”

Faculty of Science, Horvatovac 102a, Zagreb, Croatia

- Supervising and grading student projects. Preparation and grading of exams.

Type of business or sector University

June 2011 - January 2012

Expert associate on FP7 project “e-Laboratory for Collaborative Interdisciplinary Research in Data Mining and Data Intensive Sciences-Enlarged European Union (e-LICO)”

Ruđer Bošković Institute, Bijenička 54, Zagreb, Croatia

- My main task was to design and implement predictive model for execution-time estimation of data mining workflows. This was a part of larger collaboration with Jožef Stefan Institute in Ljubljana and University of Geneva trying to develop a non-functional assessment of automatically generated data mining workflows.

Type of business or sector Research institute

October 2010 - June 2011

Researcher at the Max F. Perutz Laboratories GmbH, Vienna, Austria

Max F. Perutz Laboratories GmbH, Dr. Bohr-Gasse 9, 1030 Wien, Austria

- Working in the group of Bojan Žagrovič (Laboratory of Computational Biophysics) on problems considering allostery in serine proteases (thrombin), molecular dynamics simulations on graphics processors and large scale distributed system for molecular dynamics simulations (Folding@Home).

Type of business or sector Research institute

September 2010 - August 2011,
September 2009 - August 2010

Organizer of Summer School of Science (S3) in Višnjan, Croatia

Science – Educational Centre Višnjan, Istarska 5, Višnjan, Croatia

- Organizing a one-week international science school for high-school students from Croatia and abroad. Selecting participants, project leaders and lecturers. Fundraising and marketing. Working with project leaders on preparation of their projects. Managing day-to-day activities during the school.

Type of business or sector Education centre

March 2010 - June 2010,
March 2009 – June 2009

Demonstrator on the course “Signals and Systems”

Faculty of Electrical Engineering and Computing, Unska 3, Zagreb, Croatia

- Helping other students during the laboratory exercises that were conducted in Matlab. The course is a compulsory for a second year undergraduate students..

Type of business or sector University

EDUCATION AND TRAINING

2008 – 2010

Master of Science in Computing

Faculty of Electrical Engineering and Computing, University of Zagreb, Zagreb, Croatia

- advanced algorithms and data structures
- object and xml databases, object-oriented design
- digital signal and image processing
- machine learning, machine vision
- parallel programming, programming on graphics processors

Master thesis: „Multiresolution analysis of macromolecular structures“ (in English)

Advisor: Mile Šikić

2005 – 2008

Bachelor of Science in Computing

Faculty of Electrical Engineering and Computing, University of Zagreb, Zagreb, Croatia

- programming and algorithms
- databases
- computer networks
- information processing
- artificial intelligence and pattern recognition

Bachelor thesis: “Identifying sets of key players in complex networks” (in Croatian)

Advisor: Branko Jeren

2001 – 2005

High school diploma

Gymnasium Bjelovar, Bjelovar, Croatia

PERSONAL SKILLS AND COMPETENCES

Mother tongue

Croatian

Other languages

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	C1	C1
Personal assessment					
German	A1	A1	A1	A1	A1
Personal assessment					

(*) Common European Framework of Reference for Languages

Computer skills and competences

- programming languages: C, C++, C#, R, Matlab, Perl, Python, Java
- databases: MySQL, Informix, PostgreSQL
- operating systems: Windows, Linux
- other tools: Microsoft Office, OpenOffice, Photoshop, Inkscape, LaTeX, Gnuplot, Gromacs, Pymol, VMD, RapidMiner

Driving licence

B category

ADDITIONAL INFORMATION

Awards and recognition

- **Rector's Award** of University of Zagreb, July 2010, for project "New Robust Method for QSAR Analysis Based on Multivariate Regression and L1 norm" (in Croatian). Advisor was Mile Šikić from the Faculty of Electrical Engineering and Computing. The project was performed in collaboration with Bono Lučić from the Rudjer Boskovic Institute.
- **Best student paper** for paper „Parallel Protein Docking Tool“ presented on conference MIPRO 2010 in Opatija, Croatia.
- Second award on competition „Best student software of the Faculty of Electrical Engineering and Computing“ held in November 2009 for project „Protein Docking Tool“. The award is given for especially good software solutions that are developed by students of Faculty of Electrical Engineering and Computing.
- First place on competition „Balcan Case Challenge“, April 2009, in category „Information and Communication Technology“ held in Belgrade. This qualified me for finals held in Vienna. The purpose of the competition is preparation and presentation of conceptual solutions to problems from business practice.

Publications

- Piškorec, Matija; Antulov-Fantulin, Nino; Miholić, Iva; Šmuc, Tomislav; Šikić, Mile, „*Modeling Peer and External Influence in Online Social Networks: Case of 2013 Referendum in Croatia*“. Complex Networks and Their Applications VI: Proceedings of Complex Networks 2017 (The Sixth International Conference on Complex Networks and Their Applications), Lyon, Francuska: Springer International Publishing, 2017. str. 1015-1027
- Brbić M., Piškorec M., Vidulin V., Kriško A., Šmuc T., Supek F., "The landscape of microbial phenotypic traits and associated genes", Nucleic Acids Research, (2016).
- Piškorec M., Sluban B., Šmuc T., "MultiNets: Web-Based Multilayer Network Visualization", In Proceedings of ECML-PKDD 2017 Part III, (2015)
- Piškorec M., Antulov-Fantulin N., Kralj-Novak P., Mozetič I., Grčar M., Vodenska I. and Šmuc T., "Cohesiveness in Financial News and its Relation to Market Volatility", Scientific Reports 4, (2014)
- Piškorec M., Bošnjak M., Šmuc M. (2012) „*Meta-modeling Execution Times of RapidMiner Operators*“, Proceedings of the 3rd RapidMiner Community Meeting and Conference (RCOMM 2012).
- Piškorec M., Antulov-Fantulin N., Čurić J., Ivanac V., Karlović L. (2011) „*Computer Vision System for the Chess Game Reconstruction*“, Proceedings of the 34th International Convention MIPRO 2011.
- Sović I., Antulov-Fantulin N., Čanadi I., Piškorec M., Šikić M. (2010) „*Parallel Protein Docking Tool*“, Proceedings of the 33rd International Convention MIPRO 2010 [best student paper].