

Curriculum Vitae: Domagoj Margan

CONTACT INFORMATION	Department of Computing Imperial College London 180 Queen's Gate London, SW7 2AZ, UK	+447490166801 dm@domargan.net https://domargan.net
CITIZENSHIP	Croatian (EU, EEA) with the right to work and remain in the UK	
RESEARCH INTERESTS	Graph Data Management; Graph Processing Systems; Data-Intensive Systems; Distributed Systems; Stream Processing.	
EDUCATION	PhD, Computer Systems Large-Scale Data and Systems Group Department of Computing, Imperial College London <i>Expected: Autumn 2021</i> Specialisation: Dynamic graph processing systems. Supervisors: Prof. Peter Pietzuch, Dr. Jana Giceva.	Oct 2016 – Present
	MRes, Advanced Computing Large-Scale Data and Systems Group Department of Computing, Imperial College London Specialisation: Temporal graph data management. Supervisor: Prof. Peter Pietzuch.	Oct 2015 – Sep 2016
	Master's degree, Informatics Department of Informatics, University of Rijeka Area of focus: Complex networks / graph analytics. Honours: <i>Summa Cum Laude distinction</i>	Oct 2013 – July 2015
	Bachelor's degree, Informatics Department of Informatics, University of Rijeka Area of focus: Complex networks / graph analytics.	Oct 2009 – Sep 2013
AWARDS	EPSRC – HiPEDS Doctoral Scholarship Scholarship to cover funding for MRes+PhD studies as well as monthly stipend. Issued by Engineering and Physical Sciences Research Council UK.	Oct 2015
SELECTED ACCEPTED PUBLICATIONS	B. Erb; D. Meißner; B. Steer; <u>D. Margan</u> ; F. Kargl; F. Cuadrado; P. Pietzuch. “GraphTides: A Framework for Evaluating Stream-based Graph Processing Platforms”. <i>Proceedings of the 1st Joint International Workshop on Graph Data Management Experiences & Systems and Network Data Analytics - GRADES-NDA '18</i> (co-located with SIGMOD '18). (2018) <u>D. Margan</u> ; P. Pietzuch. “Large-Scale Stream Graph Processing.” Doctoral Symposium paper. <i>Proceedings of the 11th ACM International Conference on Distributed and Event-based Systems - DEBS '17</i> , pp. 378-381 (2017) S. Martinčić-Ipšić; <u>D. Margan</u> ; A. Meštrović. “Multilayer Network of Language: A Unified Framework for Structural Analysis of Linguistic Subsystems.” <i>Physica A: Statistical Mechanics and its Applications</i> , 457, pp. 117-128 (2016)	

WORK
EXPERIENCE

Graduate Researcher

Department of Computing, Imperial College London Apr 2015 – Present

Leading a research project on system design for billion-edge-scale dynamic graph data processing.

Experience: From-scratch system building in C++17; Parallel programming and graph data management in NUMA environments; Performance optimisation and analysis with IntelVtune and perf.

Research and Software Development Intern

Oracle Labs, Oracle Corporation Oct 2018 – Feb 2019

Implemented features and improved operator performance of Oracle's production-grade PGX.D distributed graph pattern-matching engine.

Experience: C++14 distributed system programming in a large-scale cluster environment; Working as a part of a big R&D team.

Undergraduate Research Assistant

Department of Informatics, University of Rijeka Dec 2012 – Sep 2015

Performed multiple experimental studies in the area of complex network (graph) analysis and published a journal paper; Presented research work on international conferences.

Experience: Developing scientific toolkit in Python for generation and analysis of linguistic graph-structured data; Graph data preparation, cleansing, and analysis; Paper writing.

Undergraduate Teaching Assistant

Department of Informatics, University of Rijeka Oct 2011 – Sep 2014

Tutor in laboratory exercises for courses:
Programming (C++ for mathematics and physics students),
Operating Systems I (Unix system administration),
Operating Systems II (System & network programming),
Distributed Systems (Parallel, multithreaded & multi-process programming).

Faculty of Engineering, University of Rijeka Mar 2013 – July 2013

Tutor in laboratory exercises for Computer Networks course
(Socket programming and network simulation).

System Administrator

Eurocomputer Systems ltd. (*internship*) July 2011

University Library Rijeka (*internship*) July 2010 – Sep 2010

TECHNICAL
SKILLS

Operating Systems: GNU/Linux, UN*X, MS Windows

10+ years of experience with GNU/Linux daily usage and administration.

Programming: C++, Python, bash

Built a billion-edge-scale shared-memory parallel graph processing system from scratch in C++17; Worked on a production-grade distributed graph querying system in C++14; Implemented scientific software toolkit in Python; Using bash and gnu-coreutils to automate daily workflow and tasks.

Software: Intel VTune, perf, git, L^AT_EX, Emacs

Experience with git system and version control processes in a large production-grade R&D environment; Extensively using VTune and perf for bottleneck analysis and performance profiling; Fluent in technical writing in L^AT_EX.