

Philippos Papaphilippou

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Gender Male | Date of birth 1993 | Nationality Cypriot

Academic Education

PhD in High Performance, Embedded and Distributed Systems (HiPEDS) (1 October 2017–present)

Imperial College London – London (UK)

EPSRC – HiPEDS Centre for Doctoral Training (CDT), with sponsorship from Dunnhumby

Graduate teaching assistant : 332 Advanced Computer Architecture (17/18), 202 Algorithms II (17/18), 502 Operating Systems (17/18), 332 Advanced Computer Architecture (18/19)

Topic: “Optimising Big Data Calculation of Key Customer Metrics through Specialised Processing”

Supervisor: Prof. Wayne Luk

M.Phil in Advanced Computer Science (1 October 2016–30 June 2017)

University of Cambridge - Wolfson College, Cambridge (UK)

MPhil project: “Performance Tuning for Deep Learning on a Many-core Processor” [↗](#)

Supervisor: Dr. Robert Mullins

Module selection: Chip Multiprocessors, Advanced Operating Systems, Algebraic Path Problems, with applications to Internet Routing, Machine learning and algorithms for data mining, System on Chip Design and Modeling

Grade: 75.53/100 [Distinction]

Bachelor Of Computer Science (BSc) (11 September 2012–15 June 2016)

University of Cyprus, Nicosia (Cyprus)

Course Specialization: Computer Systems and Networks

Thesis: “Designing a Modern Block Replacement Policy for Last-Level Cache”

Supervisor: Associate Professor Yanos Sazeides

GPA: 8.82/10.0 [Excellent] (Rank: 2/67)

Publications

[Philippos Papaphilippou](#), Chris Brooks and Wayne Luk “FLiMS: fast lightweight merge sorter”

International Conference on Field-Programmable Technology (FPT) 2018 [↗](#)

Philippos Papaphilippou and Wayne Luk “Accelerating database systems using FPGAs: A survey” The International Conference on Field-Programmable Logic and Applications (FPL) 2018 [↗](#)

Stefan Krieg, Thomas Luu, Johann Ostmeier, Philippos Papaphilippou and Carsten Urbach
“Accelerating Hybrid Monte Carlo simulations of the Hubbard model on the hexagonal lattice”
Computer Physics Communications, 2018 [↗](#)

Research Internships

Summer of HPC 2017 Participant – The project aimed to eliminate the simulation time of a Quantum Monte Carlo simulator for carbon nanotubes by using data science techniques. This was achieved by creating an online optimization algorithm that balances the accuracy of the simulator for better performance - PRACE (Partnership for Advanced Computing in Europe) – Supervisor: Dr. Stefan Krieg – Forschungszentrum Jülich, Germany, 07-08/2017

Research assistant/Honour intern, Studied about CPU Last-Level Cache Block Replacement Policies, implemented Cache simulators and tested various Cache Algorithms (LRU based, DRRIP based and new variations) for single and multi-program workloads in functional and timing simulations; explored a wide Design Space of cache configurations using the Cy-Tera HPC Facility - with Associate Professor Yanos Sazeides - Xi Computer Architecture Research Lab - University of Cyprus, 06/2013 – 9/2016

Intern at CaSToRC – Computation-based Science and Technology Research Center, The Cyprus Institute. Constructed and evaluated different Neural Network Architectures to assist parameter optimisation and runtime elimination in LatticeQCD Simulations – with Prof. Constantia M. Alexandrou – 06-08/2016

Developed a small GATE (General Architecture for Text Engineering) plug-in to assist collecting verbs that connect specific strings using Natural Language Processing in texts for estimating article similarity – with Assistant Professor Georgia M. Kapitsaki – Software Engineering and Internet Technologies Laboratory (SEIT) - University of Cyprus, 08/2014

Honour intern, Developed a Windows Phone geolocation application with another student. Utilized the smartphone sensors to draw real-time path on maps for indoor navigation - with Assistant Professor Demetris Zeinalipour - Data Management Systems Laboratory - University of Cyprus, 06-07/2013

Computing skills

Main programming/scripting languages: Java, C/C++, Python, Bourne shell and gnuplot
Experience with Pascal, Javascript, Actionscript, C#, VHDL, Verilog, SystemC, JavaFX and with Android and Windows phone development

Good command of Unix shell, Linux (RPM-based and Debian-based), FreeBSD and Windows Frameworks – Pthreads, OpenMP, MPI, OpenCL, MapReduce/Hadoop
IDEs – NetBeans, Atom, Solaris Studio, Eclipse, VisualStudio, Xilinx ISE, ArgoUML, Microsoft Visio
Tools – PCSpim, MARSSx86, Model-Sim, SimAlpha, CMP\$im, Qemu, VirtualBox, Intel Pin, Condor, Slurm, Opnet, GTKWave, gnuplot, GATE, Gephi, Neuroph Studio/API

Other Information

Languages

Greek (native)

English (CEFR: C1 – IELTS Overall Score: 7.5/9)

German (CEFR: B1 – Zertifikat Deutsch B1)

Secondary Education

(Lyceum graduate)

Pancyprian Gymnaseum, Nicosia (Cyprus)

Core Subjects: Mathematics, Biology, Physics, Chemistry

Overall grade: 18.1/20

Military Service (July 2011–September 2012)

Cypriot National Guard, (Cyprus)

Other projects

3d N-Body simulator – Presented as a midterm project for the course “FYS 012 – Physics and Applications” at the University of Cyprus 2016 [🔗](#)

Developed a computer simulation program about light (Physics) later used for teaching pre-service educators, Learning in Science Group - University of Cyprus 2008

Presentations

Presented the full paper “FLiMS: fast lightweight merge sorter” at the International Conference on Field-Programmable Technology (FPT), Tenbusu-Naha hall, Naha, Okinawa, Japan, 2018

Presented the full paper “Accelerating database systems using FPGAs: A survey” at the International Conference on Field-Programmable Logic and Applications (FPL), Trinity College, Dublin, 2018

“Raspberry pi as a Web Server tutorial”, Web Development Workshop Series - Cyprus Computer Society (2015)

Presented a Windows Phone project with another student at 5th Workshop for High School Students at University of Cyprus (2014)

"Graphical Approach of Trigonometric Numbers in a Computer Application", Student Mathematics Seminar by Cyprus Mathematical Society, Paphos (Cyprus) 02/2011

Seminars/Training Schools

Manycore Summer School 2018 – MaRIONet The UK Manycore Network, 16-20 July 2018, University of Glasgow

ACACES 2018 - Fourteenth International Summer School on Advanced Computer Architecture and Compilation for High-Performance and Embedded Systems, 8-14 July 2018, Fiuggi, Italy

MaxCompiler Workshop – London, 20-21 June 2017

2nd International Summer School Training on Manufacturable and Dependable Multi-core Architectures at Nanoscale MEDIAN ISTS 2015 (Prague) 07/2015

2nd Workshop on Cloud Computing in Cyprus: Opportunities and Challenges – Department of Computer Science, University of Cyprus & Microsoft Cyprus – 06/2015

4th LinkSCEEM General User Meeting – Cyprus Institute – 06/2014

Student Mathematics Seminar by Cyprus Mathematical Society, Paphos (Cyprus) 02/2011

Participated in Science Summer Club of University of Cyprus and presented a team project 2008

Memberships

IEEE Region 8 Member since 2013, ACM Student (2017), Cyprus Computer Society (2015)

Honours and awards

- 2015 1st prize, "EU Code Week Competition" National Competition for University Students, of Cyprus Computer Society
- 2014 National Innovation Winner, ImagineCup 2014 of Microsoft Cyprus, in a team of four students
- 2011 10th place, "Iakovos Patatsos" Provincial competition of Cyprus Mathematical Society
1st place - (Silver Medal) in Informatics, International Kangourou Competition 2010-2011, National competition of Thales Foundation Cyprus
- 2010 4th place, "Iakovos Patatsos" Provincial competition of Cyprus Mathematical Society
6th place, "Evagoras Palikarides" National competition of Cyprus Mathematical Society
- 2009 "Iakovos Patatsos" Provincial competition of Cyprus Mathematical Society
12th place, "Evagoras Palikarides" National competition of Cyprus Mathematical Society
- 2008 "Iakovos Patatsos" Provincial competition of Cyprus Mathematical Society
4th provincially, 4rd Pancyprian Physics Olympiad
- 2007 Bronze Metal, 8th Mathematics Olympiad of Cyprus Mathematical Society
4th provincially, 3rd Pancyprian Physics Olympiad
- 2006 10th place, "Iakovos Patatsos" Provincial competition of Cyprus Mathematical Society
- 2005 Silver Metal, 6th Mathematics Olympiad of Cyprus Mathematical Society
- 2003 1st place - "Radiomarathon" National Painting Competition for Elementary Schools

Other Qualifications

Coursera - Online Course Statement of Accomplishment - Mining Massive Datasets

GCE O-Level and AS-Level in Physics, GCE A-Level in Mathematics (only modules A1 to FP1)

I.G.C.S.E English

Participations

The 2nd Cache Replacement Championship 2017, paper submission with Prof. Yanos Sazeides
ACM International Collegiate Programming Contest 2016, Google Code Jam 2016, Google Hash code
2016, Hack{Cyprus}, Local Hack Day 2015 – Cypriot Enterprise Link, ACM Sigmod 2015
Programming Contest in a team of 3 students (2015), Microsoft Malware Classification Challenge
(BIG 2015), Windows Hackathon 2013 of Microsoft Cyprus with another student (2013), IEEE Xtreme
Programming Competitions 6.0-9.0 (2012-2015)

Extracurricular Activities

Violin Playing, Cycling, Listening to Classical (Bach, Fauré), Classical Organ (Duruflé) and Jazz
Music