Petar Veličković

PhD Student in Machine Learning and Bioinformatics

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 petar-v.com github.com/PetarV- uk.linkedin.com/in/petarvelickovic

Education
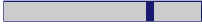
Trinity College, University of Cambridge — Cambridge, United Kingdom
2016–present
Doctor of Philosophy (PhD), Machine Learning and Bioinformatics

- ∼ Research proposal: *"Developing machine learning algorithms on complex networks"*
- ∼ Supervised by Dr Pietro Liò and Dr Thomas Sauerwald (second adviser)

Trinity College, University of Cambridge — Cambridge, United Kingdom
2012–2015
Bachelor of Arts (BA Hons. (Cantab.)), Computer Science

- ∼ Results:
  - Part IA: Class I (mark 283/375, rank 10/83)
  - Part IB: Class I (mark 302/400, rank 13/80)
  - Part II : Class I (mark 312/400, rank 9/74)
- ∼ Final-year dissertation: *"Molecular multiplex network inference"* (mark 80/100)

Matematička gimnazija — Belgrade, Serbia
2008–2012
Mathematical Grammar School

- ∼ GPA: 5.00/5.00
- ∼ Final-year project: *"Development of a software emulator for the GameBoy console"*

Work Experience

Université de Montréal — Montréal, Canada
Jul–Sep 2017
Visiting Researcher

- ∼ Montréal Institute for Learning Algorithms (MILA)

University of Cambridge — Cambridge, United Kingdom
2016–present
Research Assistant in Computational Biology

- ∼ Computer Laboratory | Artificial Intelligence Group

Cambridge Spark — Cambridge, United Kingdom
2016–present
Machine Learning Tutor

- ∼ Developing educational online resources on machine learning, teaching and delivering tech talks
- ∼ https://cambridgespark.com/courses/machine-learning

Nokia Bell Labs — Cambridge, United Kingdom
Jul–Oct 2016
Research Associate

- ∼ Deep learning for massive-scale medical time series data analysis

Jane Street Europe Limited	London, United Kingdom
Jun–Sep 2015 *Software Developer Intern*	New York, United States

- ∼ Development of a translator from a new S-expression based linear temporal logic (LTL) query language into a form recognisable by an existing LTL query solver
- ∼ Development of an algorithm and model implementation that automates a critical process within a distributed system used for the purposes of facilitating trading
- ∼ Optimisations of several subroutines within Jane Street's Bignum library for arbitrary precision arithmetic, as well as the underlying open-source project (Zarith)

University of Cambridge	Cambridge, United Kingdom
Jun–Aug 2014 *Undergraduate Researcher*	

- ∼ Computer Laboratory | Computer Architecture Group
- ∼ Development of hardware and tools for debugging and tracing, as part of the ongoing CHERI research project (`http://chericpu.org`)

Microsoft Development Center Serbia	Belgrade, Serbia
Jun–Sep 2013 *Intern Software Design Engineer*	

- ∼ SQL Server Team | Service Foundation Division
- ∼ Worked on development of the prototype for a new $C^\sharp$ and WCF-based stress testing tool on SQL Azure production clusters

Publications

∼ December 2016	**X-CNN: Cross-modal convolutional neural networks for sparse datasets** Veličković, P., Wang, D., Lane, ND. and Liò, P. *The 7th IEEE Symposium Series in Computational Intelligence (IEEE SSCI 2016)*
∼ June 2016	**Viral: Real-world competing process simulations on multiplex networks** Veličković, P., Ivašković, A., Lau, S. and Stanojević, M. *The 1st Belgrade Bioinformatics Conference (BelBi 2016)*
∼ April 2016	**muxstep: an open-source C++ multiplex HMM library** **for making inferences on multiple data types** Veličković, P. and Liò, P. *Bioinformatics, doi:10.1093/bioinformatics/btw196*
∼ December 2015	**Molecular multiplex network inference** **using Gaussian mixture hidden Markov models** Veličković, P. and Liò, P. *Journal of Complex Networks, doi:10.1093/comnet/cnv029*

Honours & Awards

∼ January 2017	**Bronze Medal** Cambridge, United Kingdom *Hack Cambridge Recurse—Major League Hacking event*

- ∼ Member of team facejack: `http://devpost.com/software/facejack`
- ∼ Awarded the 3rd best project award (out of ∼100 participating teams)

∼ November 2016	**ACM-ICPC NWERC 2016 — Silver Medal** Bath, United Kingdom *Association for Computing Machinery*

∼ January 2016	**Finalist** *Hack Cambridge—Major League Hacking event*	Cambridge, United Kingdom

∼ Member of team Viral: `http://devpost.com/software/viral`
∼ Nominated as one of the top 7 projects (out of ∼100 participating teams)

∼ November 2014	**ACM-ICPC NWERC 2014 — Bronze Medal** *Association for Computing Machinery*	Linköping, Sweden
∼ July 2014	**Senior Scholar** *Trinity College, University of Cambridge*	Cambridge, United Kingdom

∼ Elected due to high performance in Part IB of the Computer Science Tripos
∼ Re-elected for another year (in July 2015) due to high performance in Part II

∼ July 2013	**Junior Scholar** *Trinity College, University of Cambridge*	Cambridge, United Kingdom

∼ Elected due to high performance in Part IA of the Computer Science Tripos

∼ June 2012	**Best Final-year project in the area of Informatics** *Matematička gimnazija*	Belgrade, Serbia

∼ Awarded for the best Informatics-related project in the school's 2012 generation

∼ May 2012	**Cambridge Overseas Trust Scholarship** *Cambridge Commonwealth, European and International Trust*	Cambridge, United Kingdom
∼ May 2012	**Trinity Overseas Bursary** *Trinity College, University of Cambridge*	Cambridge, United Kingdom
∼ 2009–2012	**Serbian High School Competition Awards** *Mathematical and Physical Societies of Serbia*	Belgrade, Serbia

∼ Serbian Olympiad in Informatics - Third Prize (May 2012)
∼ National Competition in Informatics - Second Prize (April 2012)
∼ National Competition in Physics - Honourable Mention (April 2011)
∼ National Competition in Mathematics - Honourable Mention (March 2010)
∼ National Competition in Physics - Honourable Mention (April 2009)

Skills

●●●●● Proficient	C/C++, C♯, Python, Java, OCaml, Keras, TensorFlow, LATEX, PGF/Ti*k*Z, `git`, Unix Algorithms, Data Structures, Machine Learning, Bioinformatics, Teaching
●●●●○ Experienced	MATLAB, SQL, Pascal, SystemVerilog, Bluespec, Altera Quartus, `vim` Theoretical Computer Science, Numerical Analysis
●●●○○ Skilled	Rust, ML, Prolog, Mercurial, `gnuplot` Natural Sciences, Probability, Kernel Programming (Linux)