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
Doctor of Philosophy (PhD), Machine Learning and Bioinformatics

2016–present

- ∼ 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
Bachelor of Arts (BA Hons. (Cantab.)), Computer Science

2012–2015

- ∼ 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
Mathematical Grammar School

2008–2012

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

Work Experience

University of Cambridge Cambridge, United Kingdom
Research Assistant in Computational Biology

2016–present

- ∼ Computer Laboratory | Artificial Intelligence Group

Cambridge Coding Academy Cambridge, United Kingdom
Machine Learning Tutor

2016–present

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

Nokia Bell Labs Cambridge, United Kingdom
Research Associate

Jul–Oct 2016

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

Jane Street Europe Limited London, United Kingdom
Software Developer Intern New York, United States

Jun–Sep 2015

- ∼ 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)

Jun–Aug 2014	**University of Cambridge** — Cambridge, United Kingdom *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`)

Jun–Sep 2013	**Microsoft Development Center Serbia** — Belgrade, Serbia *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

∼

November 2016

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

∼

January 2016

Finalist — Cambridge, United Kingdom
Hack Cambridge—Major League Hacking event

  ∼ 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 — Linköping, Sweden
Association for Computing Machinery

∼

July 2014

Senior Scholar — Cambridge, United Kingdom
Trinity College, University of Cambridge

  ∼ 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 — Cambridge, United Kingdom
Trinity College, University of Cambridge

  ∼ 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/TikZ, `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)