

Roman Pogodin, CV

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Education

2017 – present MPhil/PhD Theoretical Neuroscience
University College London, London (UK)
Gatsby Computational Neuroscience Unit

2013 – 2017 BSc Applied Mathematics and Physics (Honours)
Moscow Institute of Physics and Technology (State University), Moscow (Russia)
Department of Control and Applied Mathematics
Average Grade: 8.8/10

Research experience

April 2018 – present Gatsby Unit, UCL, research group of Prof. Latham
PhD student
Topics: associative memory models, biologically plausible deep learning

November 2018 – February 2019 Google DeepMind, collaboration with Tor Lattimore
Breadth rotation student
Topic: adaptivity in adversarial bandits

September 2016 – August 2017 Skoltech, research group of Prof. Maximov
Research intern at Center for Energy Systems
Topic: non-convex optimization

July 2016 – August 2016 Summer Research Program, EPFL, Prof. Gerstner's lab
Summer intern in Computational Neuroscience
Topic: generating long-time sequences from structured neural networks

January 2016 – July 2016 MIPT, under the guidance of Dr. Grudinin
Course project
Topic: optimization in application to structural biology

July 2015 – September 2015 Amgen Scholars Program, LMU Munich, Prof. Leibold's lab
Summer intern in Computational Neuroscience
Topic: simulation models of path planning in the hippocampal-cortical network

Teaching

September 2018 – March 2019 Gatsby Unit, UCL
Teaching assistant
Probabilistic and Unsupervised Learning (COMPGI18)
Approximate Inference and Learning in Probabilistic Models (COMPGI16)
Systems and Theoretical Neuroscience
Responsibilities:
tutorials, marking, coordination of the Gatsby TAs, some assignments for neuroscience

Other

September 2016 – June 2017 Yandex School of Data Analysis, Moscow (Russia)
Department of Computer Science
Master's-level courses in computer science and data analysis

September 2016 – March 2017 MIPT office for international internships
Team member
Data collection and work with students

February 2014 – June 2015 MIPT volunteering team
Group leader
Work with an orphanage

Skills

- Programming
Python (including PyTorch), C, C++, Matlab
- Other
Linux-based OS, \LaTeX , Mathematica
- Languages
English C1 (Advanced, TOEFL iBT score 103)
Russian C2 (Native speaker)

Papers

[Google Scholar link](#)

- July 2019 On First-Order Bounds, Variance and Gap-Dependent Bounds for Adversarial Bandits
R. Pogodin, T. Lattimore
In Proceedings of the Conference on Uncertainty in Artificial Intelligence (UAI) 2019
- October 2017 Efficient rank minimization to tighten semidefinite programming
for unconstrained binary quadratic optimization
R. Pogodin, M. Krechetov, Y. Maximov
In Proceedings of the 55th Annual Allerton Conference on Communication,
Control, and Computing (Allerton)
- September 2016 Quadratic Programming Approach to Fit Protein Complexes into Electron Density Maps
R. Pogodin, A. Katrutsa, S. Grudin
In Proceedings of Information Technologies and Systems 2016

Workshop papers

- December 2019 Working memory facilitates reward-modulated Hebbian learning in
recurrent neural networks
R. Pogodin, D. Corneil, A. Seholzer, J. Heng, W. Gerstner
NeurIPS 2019 workshop
Real Neurons & Hidden Units: future directions at the intersection of neuroscience and AI

Talks

- March 2020 Theoretical Neuroscience Journal Club at CNBC CMU, Pittsburgh
Title: 3-factor Hebbian learning rules in deep networks: an information bottleneck approach
- November 2019 DeepMind/UCL PhD Workshop, London
Title: Associative memory in winner-take-all networks: from binary units to spikes

Posters

- March 2020 COSYNE 2020
Title: 3-factor Hebbian learning rules in deep networks:
an information bottleneck approach (with Peter Latham)
- September 2019 NCCD 2019
Title: Associative memory in winner-take-all networks:
from binary units to spikes (with Peter Latham)
- March 2019 COSYNE 2019
Title: Memories in coupled winner-take-all networks (with Peter Latham)
- June 2017 Ninth Traditional school "Control, Information, Optimization"

September 2016	Information Technologies and Systems 2016
August 2016	Summer Research Program, EPFL
June 2016	Eighth Traditional school "Control, Information, Optimization"
November 2015	58th MIPT Scientific Conference
September 2015	Amgen Program Cambridge symposium
August 2015	Amgen Program LMU symposium

Honors and awards

September 2016 – December 2016	Increased State Academic Scholarship for research achievements
February 2014 – June 2016	Abramov fund scholarship for best non-senior students