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Stefan Magureanu

PhD Student

About Me My PhD is focused on the design and analysis of reinforcement learning algorithms, more specifically, applications of multi-armed bandits to search engines and recommendation systems. My interests lie in developing highly efficient algorithms that solve challenging and high-impact problems in machine learning and automation.

Education

2012 – Dec 2017 (expected), KTH Royal Institute of Technology, Sweden
Ph.D. Electrical Engineering

2010 – 2012, KTH Royal Institute of Technology, Sweden
M.Sc. Software Engineering of Distributed Systems

2006 – 2010, Polytechnic University of Bucharest, Romania
B.Sc. Computer Science and Engineering

Experience

2012 – Present, *PhD Student*, KTH Royal Institute of Technology
Scope of research:

- Fundamental performance limits of reinforcement learning algorithms.
- Algorithms and their analysis (both numerical and analytical).
- Measure the numerical performance of algorithms through simulations.
- Publish research papers and presentations at academic conferences.

December 2015 – June 2016, *PhD Intern*, Analytics Research at Spotify AB
The internship was focused on the design and analysis of learning to rank algorithms, which we evaluate on real search queries of Spotify users. Our findings are the basis of the paper titled "Online Learning of Optimally Diverse Rankings", submitted to the ACM SIGMETRICS 2017 conference.

May 2014 – August 2014, *PhD Intern*, Ericsson Research
Evaluated the performance and suitability of network coding schemes in communication networks.

Academic Publications

2018, ACM SIGMETRICS
Online Learning of Optimally Diverse Rankings[1]
S. Magureanu, A. Proutière, M. Isaksson, B. Zhang

2017, Neural Information Processing Systems (NIPS).
Accepted as spotlight (< 5% of submitted papers)
Minimal Exploration in Structured Stochastic Bandits
S. Magureanu, R. Combes, A. Proutière

2016, Licentiate Thesis
Structured Stochastic Bandits
S. Magureanu

2016, IEEE/ACM Transactions on Networking
Optimal Distributed Scheduling in Wireless Networks Under the SINR Interference Model
P. Chaporkar, S. Magureanu, A. Proutière

2015, ACM SIGMETRICS
Learning to Rank: Regret Lower Bounds and Efficient Algorithms
R. Combes, S. Magureanu, A. Proutière, C. Laroche

2014, Conference On Learning Theory (COLT)
Lipschitz Bandits: Regret Lower Bounds and Optimal Algorithms
S. Magureanu, R. Combes, A. Proutière

[1] Accepted during the summer 2017 submission round. To be presented at SIGMETRICS 2018.

Technical Skills

Machine Learning

- Reinforcement learning
- Supervised machine learning and deep learning
- Stochastic optimization
- Mathematical modeling of real world problems

Programming

- Java
- C/C++
- Matlab / R
- SQL / BigQuery
- Distributed Systems
- Parallel Computing

Communication Skills

Teaching Experience

- Introduction to MATLAB (2014) (Bachelor level)
- Stochastic Control and Optimization (2016) (Masters level)
- Bachelor thesis projects

Languages

Romanian	Native speaker
English	Professional proficiency
Swedish	Advanced beginner

Professional Interests

Machine learning, mathematical modeling, algorithm design and analysis (performance limits and guarantees), recommendation and personalization systems, search engines and learning-to-rank, data analysis, distributed systems, programming and software development.