Georgios Damaskinos

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Research Interests

Machine learning, Mobile computing, Distributed systems, Recommender systems

Education

Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland
Ph.D. Candidate, Computer Science 09/2015 - Present
Distributed Computing Lab - Rachid Guerraoui

National Technical University of Athens (NTUA), Athens, Greece
Diploma in Electrical and Computer Engineering 10/2010 - 07/2015
(5-year academic program, equivalent to M.Sc. degree)
GPA: 9.46 / 10 (top 2%)
Major: Computer Systems, Computer Software, Computer Networks
Thesis: "Profiling and cost modeling of join algorithms for Big Data Analytics"
Built a machine learning tool that automatically chooses the optimal engine (Spark, Hive, PostgreSQL) and configuration for the deployment of various join algorithms.
Computing Systems Laboratory - Nectarios Koziris

Publications

[1] "DELF: Safeguarding deletion correctness in Online Social Networks" 08/2020
K. Cohn-Gordon, G. Damaskinos, D. Neto, J. Cordova, B. Reitz, B. Strahs, D. Obenshain, P. Pearce, I. Papagiannis
USENIX Security Symposium 2020 (to appear)

[2] "FLeet: Online Federated Learning via Staleness Awareness and Performance Prediction" 06/2020
G. Damaskinos, R. Guerraoui, A.M. Kermarrec, V. Nitu, R. Patra, F. Taiani
Links: paper (under submission), code

[3] "Differentially Private Stochastic Coordinate Descent" 06/2020
G. Damaskinos, C. Duenner, R. Guerraoui, N. Papandreou, T. Parnell
Links: paper (under submission), code

[4] "The Imitation Game: Algorithm Selection by Exploiting Black-Box Recommenders" 06/2020
G. Damaskinos, R. Guerraoui, E. Merrer, C. Neumann
NETYS 2020 (International Conference on Networked Systems)
Links: paper, code, video

[5] "AggregaThor: Byzantine Machine Learning via Robust Gradient Aggregation" 05/2019
G. Damaskinos, E.M. El Mhamdi, R. Guerraoui, A. Guirguis, S. Rouault
MLSys 2019 (Conference on Machine Learning and Systems)
Links: paper, code, video

[6] "Asynchronous Byzantine Machine Learning (the case of SGD)" 07/2018
G. Damaskinos, E.M. El Mhamdi, R. Guerraoui, R. Patra, M. Taziki
ICML 2018 (International Conference on Machine Learning)
Links: paper, code

[7] "Capturing the Moment: Lightweight Similarity Computations" 05/2017
G. Damaskinos, R. Guerraoui, R. Patra
ICDE 2017 (IEEE International Conference on Data Engineering)
Links: paper, code

Experience

Facebook, London, United Kingdom
Software Engineering Intern 06/2019 - 08/2019
Worked on the DELF paper [1] by mainly focusing on the performance evaluation. Implemented optimizations as a result of the visibility that this evaluation provided.
Language: Hack, SQL, Python

IBM, Zurich, Switzerland
Research Intern 06/2018 - 09/2018
Formally derived and implemented a differentially private optimization algorithm for generalized linear models, as part of the core algorithmic component of SnapML. The work continued at EPFL and led to [3].
Language: Python

Technicolor, Rennes, France
Research Intern 06/2017 - 08/2017
Designed and implemented a method to boost the evaluation of a new recommendation service by exploiting the output of a supposedly well-established online recommender, acting as a black-box that the new service can query. Patent filed with number PCT/EP19/052345. The work continued at EPFL and led to [4].
Language: Python

Athens Clue, Athens, Greece
Web Developer 12/2014
Designed and implemented a web application for an escape room.
Language: JavaScript, HTML, CSS

High School Students, Athens, Greece
Tutor 03/2012 - 06/2015
Provided complementary mathematics, physics, and programming lectures to 8 students who either needed additional help or wanted to go beyond their school curriculum and perfect their skills.

Awards

Best Teaching Assistant Award, EPFL 12/2019
Runner-up for Best Internship Award, Technicolor 11/2017
EDIC PhD Fellowship, EPFL 04/2015
Thomaideio Award for the top graduating students, NTUA 2015
Papakyriakopoulos Award for excellence in Mathematics, NTUA 2011

Professional Service

Reviewer: MLSys 2019 (external), ICML 2019, ICML 2020, NIPS 2020
Project mentor during PhD: **1** PhD semester, **1** MSc thesis, **5** MSc semester, **1** BSc semester, **1** intern
EPFL teaching assistant: Distributed algorithms CS-451 (2018, 2019),
Real-time systems CS-321 (2018, 2019), Analysis 1 MATH-101 (2016, 2017)

Main Technical Skills

Programming: Python, Java, C, C++
Frameworks/Tools: TensorFlow, Apache Spark, Android NDK, PyTorch

Languages

Greek: Native proficiency
English: Full professional proficiency (C2 - Michigan University ECPE)
German: Limited working proficiency (B1 - Goethe Zertifikat)
French: Elementary proficiency