Andreas Maggiori

Contact Information

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LINKS:

Professional Experience

10/2023 - Present | **Postdoctoral Research Scientist, Columbia University**
Mentors: Will Ma and Eric Balkanski

05/2022-08/2022 | **Research Intern, Google Zurich**
Hosted by Ehsan Kazemi, I worked on efficient active learning for graphs.

07/2021-10/2021 | **Research Intern, Google Zurich**
Hosted by Nikos Parotsidis, I worked on improving the performance of clustering algorithms. My work led to an ICML 2022 publication.

Education

09/2018-09/2023 | **École Polytechnique Fédérale de Lausanne (EPFL), Switzerland**
PhD in Computer Science
Thesis: Beyond worst-case analysis, with or without predictions
Advisors: Rüdiger Urbanke and Ola Svensson

09/2011-10/2017 | **National Technical University of Athens, Greece**
Diploma (5-year joint degree; 300 ECTS),
Electrical and Computer Engineering (ECE)
Grade: 9.12 / 10 (approx. best 3%)

Thesis: Using Machine Learning Techniques to Infer Players' Valuations in Online Ad Auctions
Advisor: Dimitris Fotakis

01/2016-06/2016 | **Universidad Carlos III Madrid, Spain**
Erasmus Exchange Student Program

09/2005-06/2011 | **Lycée Léonin Nea Smirni, Greece**
High School
Grade: 19.5 / 20 - Excellent

Long term Research Visits

09/2022-11/2022 | **Simons Institute for the Theory of Computing , UC Berkeley**
Visiting graduate student for the program Data-Driven Decision Processes

Research Interests

I am broadly interested in combinatorial optimization, online algorithms, machine learning and their intersection.

Currently, I am focusing on *Learning Augmented (Online) Algorithms*, where (informally) the goal is to design algorithms which provably outperform classical online algorithms when an accurate prediction about the future is available, while maintaining robustness against adversarial predictions.

Publications

Authors (as customary in theory) are in alphabetical order.

1. Online and Consistent Correlation Clustering
   ICML 2022
   V. Cohen-Addad, S. Lattanzi, A. Maggiori, N. Parotsidis
2. An Improved Analysis of Greedy for Online Steiner Forest
   SODA 2022
   É. Bamas, M. Drygala, A. Maggiori
3. The Primal-Dual method for Learning Augmented Algorithms
   NeurIPS 2020 (oral talk)
   É. Bamas, A. Maggiori, O. Svensson
4. Learning Augmented Energy Minimization via Speed Scaling
   NeurIPS 2020 (spotlight presentation)
   É. Bamas, A. Maggiori, L. Rohwedder, O. Svensson
5. Online Matching with General Arrivals **FOCS 2019**
   B. Gamlath, M. Kapralov, A. Maggiori, O. Svensson, D. Wajc

Theses

- Andreas Maggiori: *Beyond worst-case analysis, with or without predictions*.
  PhD Thesis, EPFL - École polytechnique fédérale de Lausanne, 2023.
- Andreas Maggiori: *Using Machine Learning Techniques to Infer Players' Valuations in Online Ad Auctions*.
  Master Thesis, National Technical University of Athens (NTUA), 2018.

Invited Talks

06/2022	**INFORMS Applied Probability Society Conference**, Nancy, France
09/2022	**University of Massachusetts, Amhrest (UMass)**, Amhrest MA
06/2021	**Google Zurich**, Zurich, Switzerland

Programming Skills

Programming Languages (Excellent):	Python, C++, SQL
Programming Languages (Familiar with):	C, SML/NJ, Prolog, MATLAB, Bash
ML Frameworks (Familiar with):	PyTorch

Teaching Experience

I organized a study-group on how continuous optimization methods can be used to tackle combinatorial problems. The website of the study-group with notes and recorded lectures can be found here.

I co-organized the ALPS (ALgorithms with PredictionS) workshop at EPFL in May 2022, along with Etienne Bamas and Adam Polak.

I was teaching assistant for the following courses:

- NTUA: Algorithms and Complexity, Discrete Mathematics
- EPFL: Theory of Computation, Machine Learning, Learning Theory, Algorithms, Advanced Probability and Applications, Foundations of Data Science

Languages

Greek *(Native)*, Italian *(Native)*, English (*C2*), French (*C2*), Spanish (*B2*)

References

Ola Svensson: ola.svensson@epfl.ch
Rüdiger Urbanke: rudiger.urbanke@epfl.ch
Silvio Lattanzi: silviol@google.com
Vincent Cohen-Addad: cohenaddad@google.com
Nikos Parotsidis: nikosp@google.com