Étienne Bamas (born 06.09.1994)

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Google scholar profile
Website

Education and Academic Positions

PostDoctoral Researcher, MDS lab, EPFL — Lausanne, Switzerland
Sep. 2025–Sep. 2027

Postdoctoral Fellow at the ETH AI Center — Zürich, Switzerland
Jul. 2023–Jul. 2025

École Polytechnique Fédérale de Lausanne (EPFL) — Lausanne, Switzerland
Ph.D. in Theoretical Computer Science, Advisor: Ola Svensson. 2018–2023

Université Paris Diderot - École Normale Supérieure Paris — Paris, France
M.Sc. in Theoretical Computer Science (*with highest honors*, rank 2^{nd}/63). 2017–2018

- Thesis: "Local algorithms in graphs", Advisor: Louis Esperet.

École polytechnique (Engineering diploma) — Paris, France
Specialization in Machine Learning and Algorithms. 2014–2018

Lycée Louis-Le-Grand, classe préparatoire MPSI/MP* — Paris, France
Training in mathematics and physics for competitive exams to enter "Grandes écoles". 2012–2014

French "Baccalauréat série S" (*with highest honors*). — Paris, France
2012

Internships and Academic Visits

Academic visit at the Simons Institute — Berkeley, USA
Visitor of the "Data-Driven Decision Processes" semester program. Nov. 2022–Dec. 2022

Academic visit at ETH Zürich — Zurich, Switzerland
Visitor of Prof. Rico's Zenklusen group May 2022–June 2022

Research internship G-SCOP — Grenoble, France
Research in the G-SCOP team for combinatorial optimization. April 2018–August 2018

- I investigated what can or cannot be computed by local algorithms in graphs. This project led to two publications in theoretical computer science conferences.

Research and software engineering internship, INRIA — Grenoble, France
Research done in the INRIA team NANO-D. March 2017–July 2017

- I designed and implemented an efficient algorithm for detecting symmetries in folded protein in order to predict their interactions. The programming language was C++.

Internship at Surrey Satellite Technology Ltd — Guildford, England
Intern in the OBDH (On-Board Data Handling) team. Summer 2017

- I took part in analyzing circuit designs and optical devices for satellites as well as programming analysis software.

Military Service Paris, France
Paris Fire Brigade, first fire group. September 2014–April 2015

– Team leader of a rescue team of 3 people in case of accident, dangerous disease, or fire.

Funding and Recognition

- Invitation to ACM TALG for paper 4 (Top $\sim 10\%$ of accepted papers) 2024
- ETH AI Center Postdoctoral fellowship 2023-2025
- Grant from the Bernoulli Center to organize the ALPS workshop (∼30000 chf) 2022
- NeurIPS oral presentation for paper 9 (Top 1% of submissions) 2020
- NeurIPS spotlight presentation for paper 10 (Top 4% of submissions) 2020
- EPFL IC School 1-year Fellowship 2018

Publications

1. Étienne Bamas, Lars Rohwedder, Sarah Morell "The Submodular Santa Claus Problem", 36^{th} *ACM-SIAM Symposium on Discrete Algorithms*, SODA 2025.

2. Étienne Bamas, "Lift-and-Project Integrality Gaps for Santa Claus", 36^{th} *ACM-SIAM Symposium on Discrete Algorithms*, SODA 2025.

3. Étienne Bamas, Sai Ganesh Nagarajan, Ola Svensson, "An Analysis of D^{α} seeding for k-means", 41^{st} *International Conference in Machine Learning,* ICML 2024.

4. Étienne Bamas, Alexander Lindermayr, Nicole Megow, Lars Rohwedder, Jens Schlöter, "Santa Claus meets Makespan and Matroids: Algorithms and Reduction", 35^{th} *ACM-SIAM Symposium on Discrete Algorithms*, SODA 2024. **Invited to the ACM Transactions on Algorithms special issue of SODA** (top 5-10% of accepted papers).

5. Étienne Bamas, Lars Rohwedder, "Better Trees for Santa Claus", 55^{th} *Annual ACM Symposium on Theory of Computing,* STOC 2023.

6. Étienne Bamas, Marina Drygala, and Ola Svensson, "A Simple LP-Based Approximation Algorithm for the Matching Augmentation Problem", 23^{rd} *Conference on Integer Programming and Combinatorial Optimization,* IPCO 2022.

7. Étienne Bamas, Marina Drygala, and Andreas Maggiori, "An Improved Analysis of Greedy for Online Steiner Forest", 33^{rd} *ACM-SIAM Symposium on Discrete Algorithms,* SODA 2022.

8. Étienne Bamas, Paritosh Garg, and Lars Rohwedder, "The Submodular Santa Claus Problem in the Restricted Assignment Case", *48th International Colloquium on Automata, Languages, and Programming,* ICALP 2021.

9. Étienne Bamas, Andreas Maggiori, and Ola Svensson, "The Primal-Dual method for Learning Augmented Algorithms", *Advances in Neural Information Processing Systems 33*, NeurIPS 2020 (**oral presentation**).

10. Étienne Bamas, Andreas Maggiori, Lars Rohwedder, and Ola Svensson, "Learning Augmented Energy Minimization via Speed Scaling", *Advances in Neural Information Processing Systems 33*, NeurIPS 2020 (**spotlight presentation**).

11. Étienne Bamas and Louis Esperet, "Local Approximation of the Maximum Cut in Regular Graphs", *Graph-Theoretic Concepts in Computer Science - 45th International Workshop*, WG 2019.

12. Étienne Bamas and Louis Esperet, "Distributed Coloring of Graphs with an Optimal Number of Colors", *36th International Symposium on Theoretical Aspects of Computer Science*, STACS 2019.

Teaching

- Lecturer for "AI Center Projects in Machine Learning Research" Spring 2024
- Lecturer for "Advanced Topics in Discrete Optimization" Spring 2024
- Supervision of master thesis at ETHZ since 2023
  Supervised students: Gaia Torresani (Fall 2024), Thibault Vignon (Fall 2023), Jonathan Schnell (Spring 2024).
- Supervision of semester projects at EPFL 2021-2023
  Supervised students: Alexandre Reynaud (master student), Taha El Ghazi (master student).
- Teaching Assistant at EPFL 2019–2022
  "Algorithms" (head TA), "Theory of Computation" (head TA), "Information, Calcul, Communication"
- Teaching Assistant at Lycée Janson-de-Sailly 2017–2018
  In charge of oral exams in mathematics

Skills and Languages

- **Programming:** C++, Python, Pytorch, Java.
- **French:** Native.
- **English:** Full professional proficiency (110/120 TOEFL iBT).
- **Spanish and Mandarin:** Basics.

Academic Service and Talks

- I co-organized the workshop ALPS '22 on algorithms with predictions ($\sim$ 45 international participants).
- Program committee: MAPSP '24
- Reviewer for the conferences: MFCS '19, WAOA '20, ITCS '20, '23, NeurIPS '21, '22, '23, SODA '22, '23, ICML '22, STOC '23, '25, IPCO '24, '25.
- Reviewer for the journals: Algorithmica (2021), Journal of Computer and System Sciences (2023).
- I gave a talk at the following conferences or workshops: WG '19, STACS '19, Dagstuhl scheduling seminar in 2020 and 2023, NeurIPS '20, ICALP '21, Operations Research Bern (OR) '21, SODA '22, STOC '23, ICML '24.

Extracurricular Activities

- Fond of sports: running (find me on Strava), skiing, rock climbing, hiking.
- Member of EPFL emergency medical team (2019).