

Samy Jelassi

CONTACT INFORMATION

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RESEARCH INTERESTS

Deep learning, Game theory, Reinforcement learning, Non-convex optimization

EDUCATION

Princeton University, Princeton, New Jersey USA

Ph.D. Candidate, Operations Research and Financial Engineering (ORFE), September 2017 (expected graduation date: June 2022)

- Advisors: Prof. Yoram Singer and Prof. Joan Bruna

M.A., Operations Research, May 2019

ENS Paris-Saclay, Cachan, France

M.S., Applied Mathematics, May 2017

ENS de Lyon, Lyon, France

B.S., Computer Science, May 2015

ACADEMIC EXPERIENCE

Institute for Advanced Study, Princeton, New Jersey USA

Visiting student

January 2020 - April 2020

Special Year on Optimization, Statistics, and Theoretical Machine Learning.

Princeton University, Princeton, New Jersey USA

Teaching assistant

September 2018 - January 2020

Duties at various times including office hours, designing and leading weekly exercises and grading.

- ELE 435/535, Machine Learning and Pattern Recognition, Fall 2019.
- ORF 350, Analysis of Big Data, Spring 2019.
- ELE 435/535, Machine Learning and Pattern Recognition, Fall 2018.

MSRI summer school, Seattle, Washington USA

Teaching assistant

Summer 2019

Co-designed and co-taught an advanced research course on deep learning theory with Joan Bruna.

INRIA de Paris, Paris, France

Visiting student

Summer 2019

Hosted by Prof. Francis Bach.

PUBLICATIONS

Sebbouh, O., Gazagnadou, N., Jelassi, S., Bach, F., and Gower, R. M. 2019. Towards closing the gap between the theory and practice of SVRG. In *Advances in Neural Information Processing Systems*.

Jelassi*, S., Domingo Enrich*, C., Scieur, D., Mensch, A., and Bruna, J. 2019. Extra-gradient with player sampling for provable fast convergence in n-player games. arXiv preprint arXiv:1905.12363.

**Equal contribution*

Rotskoff, G., Jelassi, S., Bruna, J., and Vanden-Eijnden, E. 2019. Global convergence of neuron birth-death dynamics. In *International Conference on Machine Learning*.

Pumir*, T., Jelassi*, S., and Boumal, N. 2018. Smoothed analysis of the low-rank approach for smooth semidefinite programs. In Advances in Neural Information Processing Systems.

Equal contribution*, **Oral presentation (top 2.8%, one of 30 among 1100 accepted papers).

HONORS AND AWARDS

NeurIPS travel award, 2018

SEAS travel grant, 2018

TALKS

Global Convergence of the neuron birth-death dynamics. Math and Deep Learning seminar at New York University, USA, February 2019.

Smoothed analysis of the low-rank approach for smooth semidefinite programs. Plenary oral presentation at the NeurIPS conference, Montreal, Canada, December 2018.

Handling non-convexity in low rank approaches for semidefinite programming. MIC seminar at New York University, USA, November 2018.

SERVICE

Reviewer for NeurIPS 2019.