Jonathan Lacotte
Ph.D. Candidate, Stanford University
350 Serra Mall
Stanford, CA 94305
lacotte [at] stanford [dot] edu

Education

Ph.D. Electrical Engineering, Stanford University, 2016 - Present.
Advisor: Mert Pilanci; Readers: Andrea Montanari and Stephen Boyd.
Areas: Convex optimization and Deep Learning.

M.S. Statistics, Part III of the Mathematical Tripos, Cambridge University, 2016

M.S. Applied Mathematics, Ecole Polytechnique, France, 2015

B.S. Mathematics and Physics, Ecole Polytechnique, France, 2014

Employment

Research Assistant, EE department, Stanford University, Jun. 2017 - Present.
Optimization of neural networks through the lens of convexity, under Mert Pilanci.

Research Intern, G-Research, London, Summer 2020.
Signal research.

Research Intern, Facebook AI Research (FAIR), Menlo Park, Summer 2019.
Compression of neural networks, under Mohammad Ghavamzadeh.

Research Assistant, EECS department, UC Berkeley, Mar. 2015 - Jul. 2015.
Large-scale principal component analysis for text analysis, under Laurent El Ghaoui.

Engineering Intern, Japan Aerospace Exploration Agency, Tokyo, Summer 2014.
Empirical evaluation of a reduced-scale aeroshell designed for Mars exploration.

Pre-prints

All Local Minima are Global for Two-Layer ReLU Neural Networks: The Hidden Convex Optimization Landscape.
J. Lacotte, and M. Pilanci, 2020.

Faster Least-Squares Optimization.
J. Lacotte, and M. Pilanci, 2020.

Publications

Effective Dimension Adaptive Sketching Methods for Faster Regularized Least-Squares Optimization. *NeurIPS, 2020*. **Oral presentation (top 1% of submissions)**.
J. Lacotte, and M. Pilanci.

Limiting Spectrum of Randomized Hadamard Transform and Optimal Iterative Sketching Methods. *NeurIPS, 2020*.
J. Lacotte, S. Liu, E. Dobriban and M. Pilanci.

Optimal Randomized First-Order Methods for Least-Squares Problems. *ICML, 2020*.
J. Lacotte, and M. Pilanci.

High-Dimensional Optimization in Adaptive Random Subspaces. *NeurIPS, 2019*.
J. Lacotte, M. Pilanci and M. Pavone.

A Risk-Sensitive Finite-Time Reachability Approach for Safety of Stochastic Dynamic Systems. *American Control Conference (ACC), 2019*.
M. Chapman, **J. Lacotte**, et al.

Risk-sensitive Generative Adversarial Imitation Learning. *AISTATS, 2019*.
J. Lacotte, M. Ghavamzadeh, Y. Chow and M. Pavone.

Risk-sensitive Inverse Reinforcement Learning via Semi- and Non-Parametric methods. *International Journal of Robotics Research, 2018*.
S. Singh, **J. Lacotte**, A. Majumdar and M. Pavone.

Teaching

Teaching Assistant, Stanford University, Sep. 2020 - Dec. 2020.
EE263: Introduction to Linear Dynamical Systems (120 students).

Teaching Assistant, Stanford University, Apr. 2020 - Jun. 2020.
EE364B: Convex Optimization II (70 students).

Teaching Assistant, Stanford University, Apr. 2019 - Jun. 2019.
AA203: Optimal and Learning-based Control (80 students).

Teaching Assistant, Physics, Lycee Louis-le-Grand, Paris, Feb. 2014 - Jun. 2014.
Preparation of students to competitive examinations of the French *Grandes Ecoles*.

Academic Service

International Conference on Learning Representations (ICLR 2021), Neural Information Processing Systems (NeurIPS 2019, 2020), International Conference on Machine Learning (ICML 2020), International Conference on Artificial Intelligence and Statistics (AISTATS 2020).

Awards

Stanford Graduate Fellowship, 2016 - 2017.
Ecole Polytechnique Fellowship, 2012 - 2016.