

Christopher Criscitiello

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Citizenship: USA

Education

EPFL (École Polytechnique Fédérale de Lausanne) — PhD

PhD in Applied Mathematics, advisor: [Nicolas Boumal](#). GPA: 6/6

Thesis – [On the Complexity of Optimization: Curved Spaces and Benign Landscapes](#)

January 2021 – September 2025

Lausanne, VD, Switzerland

Princeton University — BA

Bachelor's in Mathematics, Magna Cum Laude.

GPA: 3.81/4

Class of 2019

Princeton, NJ, USA

Work Experience

Postdoctoral Researcher at the [Wharton School, University of Pennsylvania](#)

October 2025 – Present

- In the Department of Statistics and Data Science. Research on optimization theory.
- Instructor for the course [Convex Optimization for Statistics and Data Science](#).

Philadelphia, USA

Quantitative Research Intern at [Citadel Securities](#)

July 2024 – September 2024

- Researched and backtested new alpha signals for high-frequency options trading.
- Built statistical and ML models to analyze market microstructure and order book dynamics.

London, UK

Data Analyst at [Rose AI](#) and [Black Snow Capital](#)

November 2019 – December 2020

- Consultant for [Better Mortgage](#): improved and automated their online mortgage pipeline.
- Performed sentiment analysis on financial news articles, and built algorithms for DAG visualization.

New York City, NY, USA

Research

Research Interests: Optimization, machine learning, geometry

Selected Papers/Publications (full list [here](#))

[Smooth, globally Polyak–Łojasiewicz functions are nonlinear least-squares](#) – preprint 2026

[Sensor network localization has a benign landscape after low-dimensional relaxation](#) – preprint 2025

[Synchronization on circles and spheres with nonlinear interactions](#) – SIAM Journal on Applied Dynamical Systems 2026

[Curvature and complexity: Better lower bounds for geodesically convex optimization](#) – COLT 2023

[Negative curvature obstructs acceleration for strongly geodesically convex optimization](#) – COLT 2022

[An accelerated first-order method for non-convex optimization on manifolds](#) – FoCM 2022

[Efficiently escaping saddle points on manifolds](#) – NeurIPS 2019

Skills

Programming Languages: Python (NumPy, Pandas, PyTorch, scikit-learn), SQL, MATLAB, Mathematica.

Quantitative: Statistical modeling, cleaning large data sets, training machine learning models.

Awards

Mathematics Doctoral Thesis Award, EPFL, 2025

Awarded annually to a single outstanding doctoral thesis in the Institute of Mathematics at EPFL.

Doctoral Program Thesis Distinction, EPFL, 2025

Awarded to the top 8% of doctoral graduates, based on quality of research work. See [here](#).

Dean's Award for Excellence in Teaching, EPFL, 2023

For helping design the course [Optimization on Manifolds](#).

Best Paper for Young Researchers Prize, Int'l Conference on Continuous Optimization (ICCOPT'22), 2022

Shapiro Prize for Academic Excellence, Princeton University, 2015

Given to top 3% of undergraduate class.

Manfred Pyka Memorial Prize in Physics, Princeton University, 2015

Valedictorian of Ridgewood High School, 2014

Organizing, Reviewing, Teaching

Session organizer for: [ISMP 2024](#) (Nonconvex optim.: landscapes & dynamics), [ICCOPT 2025](#) (Optim. on manifolds)

Reviewer for: [NeurIPS](#), [AISTATS](#), [ALT](#), [JMLR](#), [FoCM](#), [Machine Learning \(Springer\)](#), [Journal of the AMS](#), among others

EPFL teaching assistant for: [Optimization on manifolds](#), Analysis II, Analysis III, Analysis IV, linear algebra.