Christopher Criscitiello

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Citizenship: USA

Education

EPFL (École Polytechnique Fédérale de Lausanne) — PhD January 2021 – September 2025
PhD in Applied Mathematics, advisor: Nicolas Boumal. *GPA: 6/6* *Lausanne, VD, Switzerland*
Thesis – On the Complexity of Optimization: Curved Spaces and Benign Landscapes

Princeton University — BA Class of 2019
Bachelor's in Mathematics, Magna Cum Laude. *GPA: 3.81/4* *Princeton, NJ, USA*

Work Experience

Postdoctoral Researcher at the Wharton School, University of Pennsylvania October 2025 – Present
Philadelphia, USA
- *In the Department of Statistics and Data Science.*
- *Research on optimization algorithms: complexity, convergence, and large-scale computation.*

Quantitative Research Intern at Citadel Securities July 2024 – September 2024
London, UK
- *Researched and backtested new alpha signals for high-frequency options trading.*
- *Built statistical and ML models to analyze market microstructure and order book dynamics.*

Data Analyst at Rose AI and Black Snow Capital November 2019 – December 2020
New York City, NY, USA
- *Consultant for Better Mortgage: improved and automated their online mortgage pipeline.*
- *Performed sentiment analysis on financial news articles, and built algorithms for DAG visualization.*

Research

Research Interests: Optimization, machine learning, geometry

Selected Papers/Publications (full list here)
Sensor network localization has a benign landscape after low-dimensional relaxation – 2025
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.

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 percent 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.