DIMITRIS OIKONOMOU

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SUMMARY

Final-year PhD student in optimization for machine learning, with five first-author papers at ICLR, ICML and NeurIPS. My current research focuses on adaptive step-size methods and sharpness-aware minimization, with applications to deep learning and LLMs.

EDUCATION

Johns Hopkins University — Baltimore, USA
PhD in Computer Science (Advisor: Dr. Nicolas Loizou) — *08/2023 – 05/2027 (expected)*

National Technical University of Athens — Athens, Greece
MSc in Data Science and Machine Learning — *GPA: 9.8/10*
- Thesis: Efficient Learning Algorithms of Time Varying Ranking Distributions, Advisor: Dr. Dimitris Fotakis

University of Göttingen — Göttingen, Germany
MSc in Mathematics — *GPA: 1.2 (German scale; ≈ 9.7/10)*
- Thesis: Convergence Results for Entropic Transfer Operators, Advisor: Dr. Bernhard Schmitzer

National and Kapodistrian University of Athens — Athens, Greece
BSc in Mathematics — *GPA: 9.6/10*

PUBLICATIONS

[7] **Dimitris Oikonomou** and Nicolas Loizou. *Curvature-Scaled Sharpness-Aware Minimization: Convergence Beyond Smoothness*. Under Submission.

[6] **Dimitris Oikonomou**, Matthew Buchholz, Yuen-Man Pun, Robert M. Gower, Nicolas Loizou. *Taking the Road Less Scheduled with Adaptive Polyak Steps*. In **NeurIPS 2026**. [code]

[5] **Dimitris Oikonomou** and Nicolas Loizou. *Adaptive Sharpness-Aware Minimization with a Polyak-type Step size: A Theory-Grounded Scheduler*. In **ICML 2026**. [code]

[4] **Dimitris Oikonomou** and Nicolas Loizou. *Safeguarded Stochastic Polyak Step Sizes for Non-smooth Optimization: Robust Performance Without Small (Sub)Gradients*. In **ICML 2026**. [code]

[3] Robert M. Gower, Guillaume Garrigos, Nicolas Loizou, **Dimitris Oikonomou**, Konstantin Mishchenko, Fabian Schaipp. *Analysis of an Idealized Stochastic Polyak Method and its Application to Black-Box Model Distillation*. In Transactions on Machine Learning Research (**TMLR**), 2026.

[2] **Dimitris Oikonomou** and Nicolas Loizou. *Sharpness-Aware Minimization: General Analysis and Improved Rates*. In **ICLR 2025**. [code]

[1] **Dimitris Oikonomou** and Nicolas Loizou. *Stochastic Polyak Step-sizes and Momentum: Convergence Guarantees and Practical Performance*. In **ICLR 2025**. [code]

TALKS & PRESENTATIONS

Poster [6], **Conference on Neural Information Processing Systems (NeurIPS 2026)** — Atlanta, Dec 2026 (upcoming)
Posters [4, 5], **International Conference on Machine Learning (ICML 2026)** — Seoul, Jul 2026
Invited Talk, **SIAM Conference on Optimization (OP26)** — Edinburgh, Jun 2026
Invited Talk, **ELLIIT Focus Period on Optimization for Learning** — Lund, May 2026
Poster, **ELLIIT Symposium on Optimization for Learning** — Lund, May 2026
Posters [1, 2], **Greeks in AI 2025** — Athens, Jul 2025
Posters [1, 2], **International Conference on Learning Representations (ICLR 2025)** — Singapore, Apr 2025

HONORS & AWARDS

Mathematical Olympiads
International Mathematical Olympiad (**IMO**): *Bronze Medal* — Santa Marta, Colombia, 2013
Greek Mathematical Olympiad: *Silver Medal* — Athens, Greece, 2014
Greek Mathematical Olympiad: *Bronze Medal* — Athens, Greece, 2013

Awards & Scholarships
Gold Reviewer Award, International Conference on Machine Learning (ICML 2026) — 2026
JHU MINDS Data Science Fellowship — 2024, 2025
DAAD Scholarship (German Academic Exchange Service) — 2019–2020

TEACHING & PROFESSIONAL SERVICE

Head Teaching Assistant: *Computer Vision* — JHU, Fall 2024
Mentor: JHU MINDS summer outreach program (high-school student) — JHU, Summer 2024
Reviewer: ICML, NeurIPS, ICLR, AISTATS; TMLR, IEEE Trans. Signal Processing, Information and Inference