# Maksym Andriushchenko – Curriculum Vitae

### **General Information**

**Site:** https://andriushchenko.me/ **Scholar:** https://scholar.google.com/citations?user=ZNtuJYoAAAAJ

Email: maksym@andriushchenko.me **Github:** https://github.com/max-andr/

# **Education**

École Polytechnique Fédérale de Lausanne (EPFL), Switzerland (Sep 2019 - Oct 2024)

PhD Degree in Computer Science advised by Nicolas Flammarion — awarded with the Google PhD Fellowship, Open Phil AI PhD fellowship, Patrick Denantes Memorial Prize for the best thesis in the CS department of EPFL

Thesis title: "Understanding Generalization and Robustness in Modern Deep Learning" Committee: Zico Kolter, Sebastien Bubeck, Rachid Guerraoui, Florent Krzakala

Saarland University, Germany (Oct 2016 – Aug 2019)

Master's Degree in Computer Science advised by Matthias Hein from the University of Tübingen

Thesis title: "Provable Adversarial Defenses for Boosting"

Dnipro National University of Railway Transport, Ukraine (Sep 2012 – June 2016)

Bachelor's Degree in Software Engineering — with honors

Work

**EPFL** Time: September 2019 – now

**Role**: PhD student → postdoctoral researcher supervised by Nicolas Flammarion.

**Time**: February 2024 – November 2024 (part-time consultant) **Gray Swan** 

**Role**: Member of technical staff working with leading AI safety organizations (Anthropic, UK AI ΑI

Safety Institute, Center for AI Safety)

Adobe **Time**: July 2021 – October 2021

Research Role: Research internship supervised by John Collomosse

**Time:** November 2015 – June 2016 (part-time) **PrivatBank** 

**Role**: Data scientist working on predictive modeling and e-commerce applications

**Awards and Grants** 

Main Patrick Denantes Memorial Prize for the best PhD thesis in the School of Computer and

awards **Communication Sciences at EPFL (\$5k award)** 

G-Research PhD Thesis Prize in Quantitative Research (2nd place, \$3k award)

Google PhD fellowship 2022-2025 (\$80k per year for 3 years)

Open Philanthropy AI PhD Fellowship 2022-2024 (\$10k per year for travel/equipment)

EDIC PhD fellowship from EPFL for the first year (\$60k)

DAAD MSc scholarship for 2 years to study at Saarland University (\$20k)

**Co-authored** AI Safety Science grant (\$200k funded by Schmidt Sciences in 2025)

grants Safe GenAI via Robust Content Moderation Models (\$100k funded by Google in 2024)

Safety, Robustness, and Alignment of LLM agents (\$40k funded by Google in 2024)

OpenAI Researcher Access Program (\$5k in API credits in 2024)

Google Research Collab 2022-2023 (\$80k for one year + \$20k in cloud compute)

Awards for <u>Trojan detection challenge</u> at SatML'24: **first place** 

papers and

Swiss AI Safety Prize (2024): award for one of the top paper submissions

competitions Joint Conference of Korean AI Association (2023): best paper award

ICLR Workshop on Security & Safety in ML Systems (2021): best paper honorable mention

Swiss Machine Learning Day (2019): best paper award

# **Press Coverage**

2025 Forbes: Embedding LLM Circuit Breakers Into AI Might Save Us From A Whole Lot Of

**Ghastly Troubles** 

Le Figaro: When ChatGPT Goes Off the Rails, Should We Be Worried? 24 heures: When ChatGPT Goes Off the Rails, Should We Be Worried?

2024 SwissInfo: Swiss researchers find security flaws in AI models

Le Temps: Bomb making, cannibalism or cyber attacks: it is always possible to ask AI for advice

on explosive topics

Blick: EPFL discovers security flaws in several AI models TechXplore: Can we convince AI to answer harmful requests?

Léman Bleu: EPFL: Security flaws in AI models

ActuIA: EPFL study: the limits of LLMs in the face of adaptive attacks

# **Academic Service**

**Participant** Red teaming of the **OpenAI fine-tuning** service as an external expert (October 2023)

Robust AI 4-day workshop organized by AirBus AI Research and TNO (January 2021)

Reviewer TMLR, ICLR'25, NeurIPS'24, NeurIPS'23, ICML'23, NeurIPS'22 (top reviewer), ICML'22,

NeurIPS'21, ICML'21, CVPR'21, ICLR'21 (outstanding reviewer), NeurIPS'20 (top 10%

reviewers)

Workshop Workshop on Secure and Robust AI Agents: Bridging Machine Learning and Cybersecurity organization (submitted to ICLR'25; organizers: Kamilė Lukošiūtė, Maksym Andriushchenko, Baturay

Saglam, Amanda Minnich, Reza Shokri, Adam Swanda, Amin Karbasi, Yaron Singer, Shafi

Goldwasser)

**Program** committee in workshops

NeurIPS'24 Red Teaming GenAI Workshop, NeurIPS'24 SATA Workshop: Towards Safe & Trustworthy Agents, NeurIPS'24 3rd Workshop on New Frontiers in Adversarial ML, ICML'24

Workshop on the Next Generation of AI Safety, NeurIPS'23 R0-FoMo Workshop on Robustness of Few-shot and Zero-shot Learning in Foundation Models, NeurIPS'23 Workshop on

Distribution Shifts: New Frontiers with Foundation Models, ICML'23 2nd ICML Workshop on

New Frontiers in Adversarial ML, ICLR'23 Workshop on Pitfalls of Limited Data and

Computation for Trustworthy ML. NeurIPS'22 Workshop on Distribution Shifts. NeurIPS'22 ML Safety Workshop, ICML'22 New Frontiers in Adversarial ML, ICML'22 Principles of Distribution Shift, NeurIPS'21 Distribution Shifts: Connecting Methods and Applications, ICML'21 Uncertainty and Robustness in Deep Learning, CVPR'21 Adversarial ML in Real-World Computer Vision Systems, ICLR'21 Robust and Reliable ML in the Real World, Security and Safety in ML Systems, ICML'20 Uncertainty and Robustness in Deep Learning, CVPR'20 Adversarial ML in Computer Vision, ICLR'20 Towards Trustworthy ML (best reviewer award)

Outreach activities

National coordinator for Switzerland at #ScienceForUkraine

Coordinator for Switzerland and admission officer at the Ukrainian Global University

AI lectures at a summer camp for displaced Ukrainian children in Romania

# **Selected Publications**

M. Andriushchenko, A. Souly, M. Dziemian, D. Duenas, M. Lin, J. Wang, D. Hendrycks, A. Zou, Z. Kolter, M. Fredrikson, E. Winsor, J. Wynne, Y. Gal, X. Davies. AgentHarm: A Benchmark for Measuring Harmfulness of LLM Agents (ICLR 2025)

M. Andriushchenko, F. Croce, N. Flammarion. Jailbreaking Leading Safety-Aligned LLMs with Simple Adaptive Attacks (ICLR 2025)

M. Andriushchenko, N. Flammarion. Towards Understanding Sharpness-Aware Minimization (ICML 2022)

F. Croce\*, M. Andriushchenko\*, V. Sehwag\*, E. Debenedetti\*, N. Flammarion, M. Chiang, P. Mittal, M. Hein. RobustBench: a standardized adversarial robustness benchmark (NeurIPS 2021 Datasets and Benchmarks Track, Best Paper Honorable Mention Prize at ICLR 2021 Workshop on Security and Safety in Machine Learning Systems)

M. Andriushchenko\*, F. Croce\*, N. Flammarion, M. Hein. Square Attack: a Query-Efficient Black-Box Adversarial Attack via Random Search (ECCV 2020)

# **Full Publication List**

- M. Andriushchenko, A. Souly, M. Dziemian, D. Duenas, M. Lin, J. Wang, D. Hendrycks, A. Zou, Z. Kolter, M. Fredrikson, E. Winsor, J. Wynne, Y. Gal, X. Davies. AgentHarm: A Benchmark for Measuring Harmfulness of LLM Agents (ICLR 2025)
- **M. Andriushchenko**, F. Croce, N. Flammarion. Jailbreaking Leading Safety-Aligned LLMs with Simple Adaptive Attacks (ICLR 2025)
- M. Andriushchenko, N. Flammarion. Does Refusal Training in LLMs Generalize to the Past Tense? (ICLR 2025)
- H. Zhao, **M. Andriushchenko**, F. Croce, N. Flammarion. Is In-Context Learning Sufficient for Instruction Following in LLMs? (ICLR 2025)
- J. Freeman, C. Rippe, E. Debenedetti, **M. Andriushchenko**. Exploring Memorization and Copyright Violation in Frontier LLMs: A Study of the New York Times v. OpenAI 2023 lawsuit (<u>NeurIPS 2024 Safe Generative AI Workshop</u>)
- A. Zou, L. Phan, J. Wang, D. Duenas, M. Lin, **M. Andriushchenko**, R. Wang, Z. Kolter, M. Fredrikson, D. Hendrycks. Improving Alignment and Robustness with Short Circuiting (<u>NeurIPS 2024</u>)
- **M.** Andriushchenko\*, F. D'Angelo\*, A. Varre, N. Flammarion. Why Do We Need Weight Decay in Modern Deep Learning? (NeurIPS 2024)
- P. Chao\*, E. Debenedetti\*, A. Robey\*, **M. Andriushchenko**\*, F. Croce, V. Sehwag, E. Dobriban, N. Flammarion, G.J. Pappas, F. Tramer, H. Hassani, E. Wong. JailbreakBench: An Open Robustness Benchmark for Jailbreaking Large Language Models (<u>NeurIPS 2024 Datasets and Benchmarks Track</u>)
- J. Rando, F. Croce, K. Mitka, S. Shabalin, **M. Andriushchenko**, N. Flammarion, F. Tramèr. Competition Report: Finding Universal Jailbreak Backdoors in Aligned LLMs (<u>arXiv, April 2024</u>)
- H. Zhao, **M. Andriushchenko**, F. Croce, N. Flammarion. Long Is More for Alignment: A Simple but Tough-to-Beat Baseline for Instruction Fine-Tuning (ICML 2024)
- L. Adilova, M. Andriushchenko, M. Kamp, A. Fischer, M. Jaggi. Layer-Wise Linear Mode Connectivity (ICLR 2024)
- M. Andriushchenko. Adversarial Attacks on GPT-4 via Simple Random Search (December 2023)
- E. Debenedetti, Z. Wan, **M. Andriushchenko**, V. Sehwag, K. Bhardwaj, B. Kailkhura. Scaling Compute Is Not All You Need for Adversarial Robustness (<u>ICLR 2024 Workshop on Reliable and Responsible Foundation Models</u>)
- S. Shin, D. Lee, **M. Andriushchenko**, N. Lee. The Effects of Overparameterization on Sharpness-Aware Minimization: An Empirical and Theoretical Analysis (<u>arXiv</u>, <u>September 2023</u>, **best paper award** at the Joint Conference of Korean Artificial Intelligence Association (2023))
- **M.** Andriushchenko, D. Bahri, H. Mobahi, N. Flammarion. Sharpness-Aware Minimization Leads to Low-Rank Features (NeurIPS 2023)
- K. Kireev, **M. Andriushchenko**, C. Troncoso, N. Flammarion. Transferable Adversarial Robustness for Categorical Data via Universal Robust Embeddings (<u>NeurIPS 2023</u>)
- **M.** Andriushchenko, F. Croce, M. Müller, M. Hein, N. Flammarion. A modern look at the relationship between sharpness and generalization. (ICML 2023)
- **M.** Andriushchenko, A. Varre, L. Pillaud-Vivien, N. Flammarion. SGD with large step sizes learns sparse features (<u>ICML</u> 2023)
- K. Kireev\*, **M.** Andriushchenko\*, N. Flammarion. On the effectiveness of adversarial training against common corruptions (UAI 2022)
- Michael Rose, Sanita Reinsone, **Maksym Andriushchenko**, Marcin Bartosiak, Anna Bobak et al. #ScienceForUkraine: an Initiative to Support the Ukrainian Academic Community. "3 Months Since Russia's Invasion in Ukraine", February 26 May 31, 2022 (SSRN, 2022)
- M. Andriushchenko, N. Flammarion. Towards Understanding Sharpness-Aware Minimization (ICML 2022)
- **M.** Andriushchenko, X. Rebecca Li, Geoffrey Oxholm, Thomas Gittings, Tu Bui, Nicolas Flammarion, John Collomosse. ARIA: Adversarially Robust Image Attribution for Content Provenance (CVPR 2022 Workshop on Media Forensics)
- F. Croce, **M. Andriushchenko**, N. Singh, N. Flammarion, M. Hein. Sparse-RS: a versatile framework for query-efficient sparse black-box adversarial attacks (<u>AAAI 2022</u>)
- F. Croce\*, **M. Andriushchenko**\*, V. Sehwag\*, E. Debenedetti\*, N. Flammarion, M. Chiang, P. Mittal, M. Hein. RobustBench: a standardized adversarial robustness benchmark (<u>NeurIPS 2021 Datasets and Benchmarks Track</u>, **Best Paper Honorable Mention Prize** at <u>ICLR 2021 Workshop on Security and Safety in Machine Learning Systems</u>)
- M. Mosbach, **M. Andriushchenko**, D. Klakow. On the Stability of Fine-tuning BERT: Misconceptions, Explanations, and Strong Baselines (ICLR 2021)

- **M. Andriushchenko\***, F. Croce\*, N. Flammarion, M. Hein. Square Attack: a query-efficient black-box adversarial attack via random search (ECCV 2020)
- M. Andriushchenko, N. Flammarion. Understanding and Improving Fast Adversarial Training (NeurIPS 2020)
- **M.** Andriushchenko, M. Hein. Provably Robust Boosted Decision Stumps and Trees against Adversarial Attacks (<u>NeurIPS 2019</u>, contributed talk at <u>Workshop on Machine Learning with Guarantees</u>; **best paper award** at Swiss Machine Learning Day (2019))
- M. Hein, **M. Andriushchenko**, J. Bitterwolf. Why ReLU networks yield high-confidence predictions far away from the training data and how to mitigate the problem (**oral** at <u>CVPR 2019</u>, 5.6% acceptance rate, contributed talk at <u>ICML 2019</u> <u>Uncertainty and Robustness in Deep Learning Workshop</u>)
- F. Croce\*, M. Andriushchenko\*, M. Hein. Provable Robustness of ReLU Networks via Maximization of Linear Regions (AISTATS 2019)
- M. Mosbach\*, M. Andriushchenko\*, T. Trost, M. Hein, D. Klakow. Logit Pairing Methods Can Fool Gradient-Based Attacks (NeurIPS 2018 Workshop on Security in ML)
- M. Hein and **M. Andriushchenko**. Formal Guarantees on the Robustness of a Classifier Against Adversarial Manipulation (NeurIPS 2017)

#### References

#### 1. Prof. Nicolas Flammarion

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# 5. Prof. Aleksander Madry

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