

Andrei Manolache

andrei_mano@outlook.com | [Google Scholar](https://scholar.google.com/citations?user=andrei_mano) | [LinkedIn/andreimano](https://www.linkedin.com/in/andreimano) | [github/andreimano](https://github.com/andreimano) | andreimano.github.io

EDUCATION

IMPRS-IS & ELLIS; University of Stuttgart

Oct. 2022 - Ongoing

PH.D. IN ARTIFICIAL INTELLIGENCE

Ph.D. student in the IMPRS-IS and ELLIS programs, affiliated with the University of Stuttgart under the supervision of [Mathias Niepert](#) and co-advised by [Karsten Borgwardt](#) at the Max Planck Institute of Biochemistry. Research focuses on Geometric Deep Learning, with emphasis on robustness.

Teacher Assistant: Reinforcement Learning, Foundation Models, Introduction to AI, Recent Applications of Machine Learning

University of Bucharest, Faculty of Mathematics and Computer Science

Oct. 2019 - Jun. 2021

M.SC. IN ARTIFICIAL INTELLIGENCE, VALEDICTORIAN DISTINCTION

Thesis: [Deep Anomaly Detection in Text](#) (ENG), Thesis Grade 10/10

Teacher Assistant: [Deep Learning](#), [Advanced Machine Learning](#), [Operating Systems](#)

University of Bucharest, Faculty of Mathematics and Computer Science

Oct. 2016 - Jun. 2019

B.SC. IN MATHEMATICS AND COMPUTER SCIENCE, FIRST CLASS HONOURS

Thesis: [Autonomous Driving, Ackermann-Steered Vehicle](#) (RO), [Abstract](#) (ENG), Thesis Grade 10/10

PUBLICATIONS AND PATENTS

Total Citations: 365; h-index: 9 (as of May 2026).

Protein Fold Classification at Scale: Benchmarking and Pretraining.

Dexiong Chen*, **Andrei Manolache***, Mathias Niepert, Karsten Borgwardt ICML '26 Oral (\approx 2.64% of accepts)

Learning the Neighborhood: Contrast-Free Self-Supervised Molecular Graph Pretraining.

Boshra Ariguib, Mathias Niepert, **Andrei Manolache** ICML '26, NeurIPS '25 NPGML Workshop

Learning (Approximately) Equivariant Networks via Constrained Optimization.

Andrei Manolache, Luiz F.O. Chamon, Mathias Niepert NeurIPS '25 Oral (\approx 1.46% of accepts)

ChronoGraph: A Real-World Graph-Based Multivariate Time Series Dataset.

Adrian C. Lutu*, Ioana Pintilie*, Elena Burceanu, **Andrei Manolache** NeurIPS 2025 BERT²S Workshop

MolMix: A Simple Yet Effective Baseline for Multimodal Molecular Representation Learning.

Andrei Manolache, Dragos Tantar, Mathias Niepert NeurIPS 2024 MLSB Workshop

Probabilistic Graph Rewiring via Virtual Nodes.

Chendi Qian*, **Andrei Manolache***, Christopher Morris, Mathias Niepert NeurIPS 2024

Probabilistically Rewired Message-Passing Neural Networks.

Chendi Qian*, **Andrei Manolache*** et al. ICLR 2024

AD-NLP: A Benchmark for Anomaly Detection in Natural Language Processing.

Matei Bejan*, **Andrei Manolache***, Marius Popescu EMNLP 2023

Time Series Anomaly Detection using Diffusion-based Models.

Ioana Pintilie*, **Andrei Manolache**, Florin Brad ICDM 2023 AI4TS Workshop

Probabilistic Task-Adaptive Graph Rewiring.

Chendi Qian*, **Andrei Manolache*** et al. ICML 2023 Workshop on Differentiate Almost Everything

VeriDark: A Large-Scale Benchmark for Authorship Verification on the Dark Web.

Andrei Manolache*, Florin Brad* et al. NeurIPS 2022

AnoShift: A Distribution Shift Benchmark for Unsupervised Anomaly Detection.

Marius Dragoi*, Elena Burceanu*, Emanuela Haller*, **Andrei Manolache**, Florin Brad NeurIPS 2022

Rethinking the Authorship Verification Experimental Setups.

DATE: Detecting Anomalies in Text via Self-Supervision of Transformers.

Andrei Manolache, Florin Brad, Elena Burceanu

NAACL 2021; ICML 2021 UDL Workshop

Anomaly Detection Systems And Methods.

Andrei Manolache, Florin Brad, Elena Burceanu, Alexandru Novac

US Patent 11,847,111

Systems and Methods of Detecting Chatbots.

Florin Brad, Andrei Manolache, Elena Burceanu

US Patent App. 18/320.250, Filled 05/19/2023

WORK EXPERIENCE

BITDEFENDER | RESEARCH SCIENTIST

Oct 2019 – Present

- I'm currently involved in the [European Lighthouse of AI for Sustainability \(ELIAS\)](#) project.
- Lecturer for [Bitdefender's Deep Learning](#) course at the University of Bucharest, teaching final-year B.Sc. students.
- Managed a team of interns on projects including internal chatbots and systems for automatically converting and analyzing support-client phone conversations to assess interaction quality.

NXP SEMICONDUCTORS | ADAS SOFTWARE ENGINEER

May 2019 - Oct 2019

- Developed an automotive neural network inference engine leveraging NXP's hardware accelerator; contributed to core C/C++ engine and explored quantization, pruning, and optimization methods.

NXP SEMICONDUCTORS | OS SOFTWARE ENGINEER INTERN

Feb 2018 - May 2019

- Built a 1/10-scale Ackermann-steered autonomous car using ROS and Linux; implemented planning, SLAM, and computer vision algorithms in Python and C++. Completed as B.Sc. thesis.

PROJECTS, AWARDS AND MISCELLANEA

REVIEWING DUTIES

Misc

I have served as a reviewer for various ML conferences (EMNLP, ICML, ICLR, NeurIPS). I obtained Best Reviewer awards three times for NeurIPS 2022, 2023, and 2024 and a Gold Reviewer award for ICML 2026.

DARWIN

DEEP LEARNING, NLP

Member of Project DARWIN (€246,000, funded by Romania's Ministry of Education), developing forensic methods to identify and profile cyber-criminal activity on the Dark Web.

EEML 2022, 2024 - TEACHING ASSISTANT & KEYNOTE SPEAKER

Misc

I was a Teaching Assistant at the 2022 and 2024 editions of the East European Machine Learning Summer School. I was also an [Industry Keynote Speaker](#) for EEML 2024.

EEML 2021, 2025 - BEST POSTER AWARD

DEEP LEARNING

I got the best poster award at the 2021 and 2025 editions of the East European Machine Learning Summer School.

ICLR 2021 COMPUTATIONAL GEOMETRY & TOPOLOGY CHALLENGE

TDA, GEOMETRIC LEARNING

Our submission, [Topological noise invariant features using Giotto-TDA and Geomstats](#), won 1st place at the ICLR 2021 Computational Geometry & Topology Challenge. We developed a pipeline for extracting Perturbed Topological Signatures (PTS) with [Geomstats](#) and [Giotto-TDA](#), and analyzed the robustness of these representations.

PYTORCH GLOBAL SUMMER HACKATON 2020

DEEP LEARNING, CV, NLP, VQA

Our hackathon submission, [Q&Aid](#), won 1st place at the PyTorch Global Summer Hackathon 2020. Q&Aid is a conversational agent using machine learning models to filter, label, and answer medical questions. I contributed by researching VQA and vision models and integrating them into the project.

STUDENTS SCIENTIFIC COMMUNICATIONS SESSION 2019 & 2021

I was awarded the 1st place at the Faculty of Mathematics and Computer Sciences' Students Scientific Communications Session twice: for my Bachelor's thesis in 2019, and for my Master's thesis in 2021.