

MICHAIL CHATZIANASTASIS

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EDUCATION

École Polytechnique, Paris, France

Nov. 2021 - April. 2025

Ph.D. Computer Science.

- Advisor: **Pr. Michalis Vazirgiannis.**
- Deep Learning on **graphs** with applications in **Biology**.

National Technical University of Athens, Greece

Sept. 2015 - Nov. 2020

Electrical & Computer Engineering (5-year joint degree).

- Overall GPA: 8.24/10. Major: Computer Science.
- Thesis: **Generating Neural Network Architectures with Graph Variational Autoencoder**. Grade: 10/10.
- Nationwide University Entrance Exams Score: **19,443/20,000 (top 1% Nationwide)**.

EXPERIENCE

Natera

Machine Learning Scientist

USA, Remote

Nov. 2024 - Present

- Lead end-to-end pretraining of large-scale genomic LLMs (data pipelines, pretraining objectives, eval suites) to support downstream clinical tasks.
- Collaborated with cross-functional teams to integrate AI-driven solutions into clinical workflows.

InstaDeep

PhD Research Intern

Paris, France

June 2024 - Oct . 2024

- Research in LLMs and Biological Foundation models for genomics and single cell data.
- Advisor: Bernardo Almeida.

Simons Foundation, Flatiron Institute

Deep Learning Research Internship

New York, USA

June 2022 - Sept. 2022

- Research in Graph Neural Networks for cancer gene prediction.
- Advisor: Prof. Zijun Frank Zhang.

Laboratory of Algebraic and Geometric Algorithms ErGA

Machine Learning Engineer

Athens, Greece

Sep. 2020 - May. 2021

- Developed Deep Neural Networks for short-term wind energy prediction.
- Advisor: Prof. Ioannis Emiris.

École Polytechnique

Undergraduate Researcher

Remote

Apr. 2020 - Nov. 2020

- Conducted undergraduate thesis in collaboration with the National Technical University of Athens, focusing on Neural Architecture Search and graph representation learning.

NCSR Democritos

Machine Learning Internship

Athens, Greece

Sep. 2019 - Jan. 2020

- Developed NLP models to detect early indicators of Alzheimer's, using scikit-learn and PyTorch.

Google Summer of Code

Software Engineer

Remote

Apr. 2019 - Sep. 2020

- Developed a fully functional open source RESTful API that supports the whole lifecycle of a thesis, eliminating the time-consuming procedures in universities.
- Advisor: Prof. Iraklis Varlamis.

SELECTED PUBLICATIONS

1. Nikolaos Nakis, Chrysoula Kosma, Giannis Nikolentzos, **Michalis Chatzianastasis**, Iakovos Evdaimon, and Michalis Vazirgiannis. [AISTATS 2025]:
“Signed Graph Autoencoder for Explainable and PolarizationAware Network Embeddings.” In: International Conference on Artificial Intelligence and Statistics” [\[link\]](#)
2. Hadi Abdine, Michail Chatzianastasis, Costas Bouyioukos, Michalis Vazirgiannis. [AAAI 2024]:
“Prot2Text: Multimodal Protein’s Function Generation with GNNs and Transformers” [\[link\]](#)
3. Michail Chatzianastasis, Johannes Lutzeyer, George Dasoulas, Michalis Vazirgiannis. [AAAI 2023]:
“Graph Ordering Attention Networks” [\[link\]](#)
4. Giannis Nikolentzos, Michail Chatzianastasis, Michalis Vazirgiannis. [AISTATS 2023]:
“Weisfeiler and Leman go Hyperbolic: Learning Distance Preserving Graph Representations.” [\[link\]](#)
5. Roman Bresson, Giannis Nikolentzos, George Panagopoulos, **Michail Chatzianastasis**, Jun Pang, Michalis Vazirgiannis. [TMLR 2024]:
“KAGNNs: Kolmogorov-Arnold Networks meet Graph Learning.” [\[link\]](#)

6. Michail Chatzianastasis, Michalis Vazirgiannis, Zijun Zhang. [OUP Bioinformatics, 2023]: “Explainable Multilayer Graph Neural Network for Cancer Gene Prediction.” [\[link\]](#)
7. Michail Chatzianastasis, Loukas Ilias, Dimitris Askounis, Michalis Vazirgiannis. [ICASSP 2023]: “Neural Architecture Search with Multimodal Fusion Methods for Diagnosing Dementia.” [\[link\]](#)
8. Michail Chatzianastasis, Giannis Nikolenzos, Michalis Vazirgiannis. [ICANN 2023]: “Supervised Attention Using Homophily in Graph Neural Networks.” [\[link\]](#)
9. Michail Chatzianastasis, George Dasoulas, Georgios Siolas, Michalis Vazirgiannis. [ICCV 2021 Workshop on Neural Architectures.]: “Graph-based Neural Architecture Search with Operation Embeddings.” [\[link\]](#)

HONORS & AWARDS

- **École Polytechnique Engineering for Health (E4H) Conference Award (2500€)** (2023).
- **Thomaidio Award** - Acknowledgment for undergraduate scientific publication (2022, 2025).
- **Five-Year Scholarship** granted by the Stamatiou Rhodes Scholarship Foundation in recognition of academic excellence (2016-2020).
- **Scholarship** awarded by **Eurobank** and the **Greek State Scholarship Foundation** for achieving the highest score in my prefecture in Nationwide university entrance exams (2016).
- **Scholarship** received from **Intrasoft International** for my participation in their educational program focused on web development (2018).

TALKS

- **NeurIPS DGM4H Workshop**: Prot2Text: Multimodal Protein’s Function Generation with GNNs and Transformers.
- **Log Conference Paris Meetup 2023**: Prot2Text: Multimodal Protein’s Function Generation with GNNs and Transformers.
- **Complex Network Analysis (CNA) group** : Graph Ordering Attention Networks.
- **LoGaG: Learning on Graphs and Geometry Reading Group**: Graph Ordering Attention Networks.

TEACHING

- **INF581A:Advanced Deep Learning**, École Polytechnique, Paris, France. 2024
- **Advanced Learning for Text and Graph Data (ALTeGrAD),MVA**, École Polytechnique, Paris, France. 2023
- **Big Data Management** INSEEC Business School, Paris, France. Designed and taught the course on Big Data Management. Feb. 2022 - June. 2022
- **Data Science Starter Program** École Polytechnique, Paris, France. Lab assistant in the course Big Data Course at Polytechnic Executive Education Program. Nov. 2021 - Dec. 2021
- **Data Mining - SPEIT program, Shanghai Jiaotong University**. Apr. 2023

SERVICE

- **LOGML** (London Geometry and Machine Learning) 2024 Mentor.
- **Program Committee** at International Conference on Artificial Neural Networks (ICANN 2023).
- **Reviewing**:
 - Conference on Neural Information Processing Systems (NeurIPS) 2022,2023,2024.
 - International Conference on Learning Representations (ICLR) 2023,2024.
 - International Conference on Machine Learning (ICML) 2022,2023,2024.
 - International Conference on Artificial Intelligence and Statistics (AISTATS) 2023.
 - International Conference on Acoustics, Speech, & Signal Processing (ICASSP) 2022,2023.
 - International Conference on Artificial Neural Networks (ICANN) 2023.
 - Computer Communications Elsevier 2023.

SKILLS

- **Machine Learning**: PyTorch, TensorFlow Keras, JAX, Scikit-Learn, PyTorch Geometric.
- **Web-Development**: Node.js Express, Javascript, Angular.
- **Programming**: Python, C++, Java, MATLAB, NumPy, Matplotlib.
- **Languages**: Greek (Native), English (Proficient), German (B1), French (A2).