

# MICHAEL CHATZIANASTASIS

Paris, France | mixalix97@gmail.com | [Linkedin](#) | [Website](#) | [Google Scholar](#)

## EDUCATION

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École Polytechnique, Paris, France

Nov. 2021 - Present

Ph.D. Computer Science.

- Advisor: **Pr. Michalis Vazirgiannis**.
- Machine Learning on **Graph-Structured data** with applications in **Biomedicine**.

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

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Simons Foundation, Flatiron Institute

New York, USA

Deep Learning Research Internship

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

Athens, Greece

Machine Learning Engineer

Sept. 2020 - May. 2021

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

Data Science and Mining (DaSciM) team of École Polytechnique

Athens, Greece

Undergraduate Researcher

Apr. 2020 - Nov. 2020

- Undergraduate thesis in collaboration with DaSciM team, on Neural Architecture Search and Graph Autoencoders.

NCSR Democritos

Athens, Greece

Machine Learning Engineer

Sept. 2019 - Jan. 2020

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

Google Summer of Code

Remote

Software Engineer

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

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1. Michail Chatzianastasis, Johannes Lutzeyer, George Dasoulas, Michalis Vazirgiannis. [AAAI 2023]: "Graph Ordering Attention Networks" [\[link\]](#)
2. Giannis Nikolentzos, Michail Chatzianastasis, Michalis Vazirgiannis. [AISTATS 2023]: "Weisfeiler and Leman go Hyperbolic: Learning Distance Preserving Graph Representations." [\[link\]](#)
3. Michail Chatzianastasis, Michalis Vazirgiannis, Zijun Zhang. [UOP Bioinformatics, 2023]: "Explainable Multilayer Graph Neural Network for Cancer Gene Prediction." [\[link\]](#)
4. Michail Chatzianastasis, Loukas Ilias, Dimitris Askounis, Michalis Vazirgiannis. [ICASSP 2023]: "Neural Architecture Search with Multimodal Fusion Methods for Diagnosing Dementia." [\[link\]](#)
5. Michail Chatzianastasis, Giannis Nikolentzos, Michalis Vazirgiannis. [ICANN 2023]: "Supervised Attention Using Homophily in Graph Neural Networks." [\[link\]](#)
6. Michail Chatzianastasis, Giannis Nikolentzos, Michalis Vazirgiannis. [ICML 2022 Workshop on Computational Biology and SETN 2022]: "Mass Enhanced Node Embeddings for Drug Repurposing." [\[link\]](#)
7. 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

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- École Polytechnique Engineering for Health (E4H) Conference Award (2500€) (2023).
- Thomaidio Award - Acknowledgment for undergraduate scientific publication (2022).
- Five-Year Scholarship granted by the Rhodes Scholarship Foundation in recognition of academic excellence (2015-2020).

- **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).

## TEACHING

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- **Advanced Learning for Text and Graph Data (ALTeGraD)**, École Polytechnique, Paris, France.
- **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

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- **Program Committee** at International Conference on Artificial Neural Networks (ICANN 2023).
- **Reviewing:**
  - Conference on Neural Information Processing Systems (NeurIPS) 2022,2023.
  - International Conference on Learning Representations (ICLR) 2023,2024.
  - International Conference on Machine Learning (ICML) 2022,2023.
  - 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

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- **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).