Yorgos Pantis

EDUCATION

Ph.D. in Machine Learning *Nov. 2024 – Present*

National and Kapodistrian University of Athens, Department of Informatics and Telecommunications

Ph.D. degree offers me specialized knowledge in theory based Machine Learning.

- Supervisor: Christos Tzamos.
- Research interests: Transformers, Neural Networks, Optimization, Combinatorials.
- Published at: NeurIPS (1), ICLR (1, under review).

M.Sc. in Statistical Science *Oct. 2020 – Sep. 2021*

University of Oxford, Department of Statistics, Lincoln College

Master degree offered me broad high–level training in Statistics and Machine Learning.

- Courses: Statistical Machine Learning, Algorithmic Foundations of Learning, Advanced Simulation Methods, Computational Statistics, Applied Statistics, Bayes Methods, Foundations of Statistical Inference, Statistical Programming.
- Thesis: *Authorship Attribution in Ancient Greek Texts*, co–supervised by Yannis Assael, George Deligiannidis, and Thea Sommerschield – Grade: **61%**.
- Grade: **Merit**.

B.Sc. in Mathematics *Sep. 2016 – Aug. 2020*

University of Patras, Department of Mathematics

Undergraduate degree offered me broad knowledge in a wide range of Mathematics and motivated me to focus on Statistics and Computer Science.

- Division of Statistics, Probability Theory & Operational Research.
- Thesis: *Mathematical Techniques in Data Science and Machine Learning*, under the supervision of Michael N. Vrahatis – Grade: **10.00/10.00**.
- Grade: **8.90/10.00** (Distinction), equivalent to first–class honours (**top 1%**).

Summer School in Economic Networks *Jul. 2021*

University of Oxford

Studied quantitative methods, applications, and impacts of network theory within Economics.

Summer School of Nuclear and Particle Physics *Jul. 2020*

National Center for Scientific Research Demokritos

Worked on topics of Computer Science, Machine Learning, Nuclear, and Particle Physics – CERN.

Summer School in Python *Jul. 2019*

University of Patras, Aristotle University of Thessaloniki, Ionian University

Intensive summer school on advanced themes of Data Analysis and Machine Learning, using Python.

EXPERIENCE

Ph.D. Researcher *Jul. 2024 – Present*

Archimedes, Athena Research Center

- Conducting research on theory-based Machine Learning models through Optimization and Statistics,
- Supervisor: Christos Tzamos.

Research Assistant *Apr. 2024 – Jun. 2024*

Technical University of Denmark, Department of Applied Mathematics and Computer Science

- Explored Deep Learning theory via Riemannian geometry.
- Supervisor: Georgios Arvanitidis.

Research Assistant   *Apr. 2023 – Dec. 2023*
Czech Technical University in Prague, Faculty of Electrical Engineering
○ Focused on the Mini-batch Stochastic Subgradient Projection method.
○ Supervisors: Vyacheslav Kungurtsev, and Jakub Mareček.

Research Assistant   *Apr. 2022 – Apr. 2024*
Athena Research Center, Department of Institute for the Management of Information Systems
○ Researched the interface of NLP, Privacy, and Security tasks using LLMs.
○ Supervisor: Constantinos Patsakis.

Research Assistant   *Oct. 2021 – Mar. 2022*
Max Planck Institute for Mathematics in the Sciences
○ Working on the authorship attribution task with a focus on Plutarch's texts using LLMs.
○ Supervisors: Ivan P. Yamshchikov, and Jürgen Jost.

▬▬ PUBLICATIONS

C: Conference   J: Journal   †: equal contribution.

C_3 *A Derandomization Framework for Structure Discovery: Applications in Neural Networks and Beyond.*
    Nikos Tsikouras, Yorgos Pantis, Ioannis Mitliagkas, Christos Tzamos. **ICLR 2026**. [Under Review]

$C_2^\dagger$ *Teaching Transformers to Solve Combinatorial Problems through Efficient Trial & Error.*
    Panagiotis Giannoulis, Yorgos Pantis, Christos Tzamos. **NeurIPS 2025**. [Paper]

J_1 *The Anatomy of Deception: Measuring Technical and Human Factors of a Large-scale Phishing Campaign.*
    Anargyros Chrysanthou, Yorgos Pantis, Constantinos Patsakis. **Computers & Security, 2024**. [Paper]

C_1 *BERT in Plutarch's Shadows.*
    Ivan P. Yamshchikov, Alexey Tikhonov, Yorgos Pantis, Charlotte Schubert, Jürgen Jost. **EMNLP 2022**.
    [Paper]

▬▬ HONORS & AWARDS

4–year Full Scholarship   *Jul. 2024 – Present*
Archimedes, Athena Research Center
In support of my doctoral studies due to my background.

Research Infrastructure Grant   *Dec. 2024 – Present*
GRNET – Greek Research & Technology Network
In support of my doctoral research, computational resources were provided, including AWS credits and high
performance computing systems.

Full Annual Scholarship   *Oct. 2020 – Aug. 2021*
Bodossaki Foundation
In support of my master's studies due to my bachelor performance.

Covid–19 Assistance Fund   *Jun. 2021*
University of Oxford, Lincoln College
In support of my master's studies.

Vivian Green Student Assistance Scholarship   *Feb. 2021*
University of Oxford, Lincoln College
In support of my master's studies.

4–year Annual Scholarship   *Sep. 2016 – Sep. 2020*
Greek State Scholarships Foundation
In support of my bachelor studies due to my bachelor performance.

4–year Consistently in the Top 1%   *Sep. 2016 – Sep. 2020*
University of Patras, Department of Mathematics

Classified in the top–tier of my class for the duration of my bachelor studies.

Ranked Second Among Admitted Students *Sep.. 2016*
University of Patras, Department of Mathematics
Second place among accepted candidates for the bachelor's degree program.

Talks & Service

Talks
- HSBC – on Transformers reasoning *Sep.. 2025*
- Archimedes, Athena Research Center – on Transformers reasoning *May 2025*

Reviewer
- NeurIPS 2025.
- ICLR 2026, 2025.
- ICML 2025.

Teaching Assistant
National and Kapodistrian University of Athens, Department of Informatics and Telecommunications
- *Computational Learning Theory* *Fall Sem. 2025*
  I contributed to the preparation of theoretical problem sets and coding examples, helping students understand foundational concepts in learning theory.
- *Artificial Intelligence II (Deep Learning for NLP)* *Fall Sem. 2025*
  I assisted in developing lab materials focused on practical applications in the field, while also organizing and grading assignments.

Exam Proctor *Nov. 2024 – Present*
- *National and Kapodistrian University of Athens, Department of Informatics and Telecommunications*
  Served as an exam proctor each semester across various courses, effectively co-managing and monitoring classes to ensure smooth exam administration.

Volunteer
- *Archimedes, Athena Research Center* *Sep.. 2025 – Present*
  Member of the organizing committee for Greece's AI competition (PDTN), preparing students for the International AI Olympiad (IOAI) through coding and theory tutorials, as well as exams.
- *University of Oxford, Lincoln College* *Sep.. 2022 – Present*
  Mentor undergraduate and graduate students by providing guidance on their current studies, CV preparation, and applications for graduate programs or industry opportunities.
- *Library, University of Patras* *Sep.. 2019 – Aug. 2020*
  Edited digital documents and transcribed handwritten notes to support higher education students with disabilities, including blindness, dyslexia, and other learning challenges.
- *National Technical University of Athens* *Oct. 2019*
  Engaged with the public to explain scientific concepts and advised high school students on selecting universities that align with their interests and goals.