

Paul Maximilian Magos

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Bio

I hold a cum laude Master's in AI from the University of Pisa, where my thesis introduced a novel autoregressive GNN for multivariate time series generation. My core focus is developing and applying Graph Neural Networks for complex time series analysis. At ION Trading, I engineered AI systems that model client needs and market data to provide automated guidance on financial investments. Looking forward, I aim to pivot my core expertise in spatiotemporal modeling towards critical societal problems, specifically within the domain of energy informatics.

Education

2025 – **Doktor der Ingenieurwissenschaften (PhD), AI for the Energy Management**, *Technical University of Munich*.

2022 – 2024: **Master of Science, Artificial Intelligence**, *University of Pisa*.
Final Score: 1.0 with honors

In these years of my Master's Degree, I had the opportunity to improve my skills through many Computer Science courses such as Information Retrieval, and also many AI arguments such as state-of-the-art Machine Learning models, Data Mining, Deep Learning, Reinforcement Learning, Natural Language Processing, Bioinformatics and many more.

2019 – 2022: **Bachelor of Science, Computer Science**, *University of Pisa*, Final Score: 1.5, During my Bachelor's Degree I have developed a comprehensive understanding of computer science topics, including computational complexity, mathematical analysis, programming, etc.

2012 – 2018: **High School Diploma, Computer Science**, *IIS Luigi di Savoia, Chieti*, Final Score: 1.9, During my Bachelor's Degree I have developed a comprehensive understanding of computer science topics, including computational complexity, mathematical analysis, programming, etc.

Theses

2024 **Master's Degree Thesis, Multivariate Timeseries Generation with Autoregressive Graph Neural Networks**, We analyzed the literature finding a gap concerning Multivariate time series generation leveraging the spatial dependencies and then we introduced a novel approach to address the task of Multivariate Timeseries Generation through Graph Neural Networks..

Supervisor: Prof. Davide Bacciu

2022 **Bachelor's Degree Thesis, Evaluation of the use of Crunchbase for Analyzing Highly Skilled Human Migration**, I have conducted a research project on highly skilled human migration, exploring its economic and social significance. Developed a methodology for collecting and extracting migration patterns from Crunchbase data, assessing its reliability through comparison with official data sources. Acquired skills in web scraping, Python programming, data visualization, and correlation analysis. The project involved in-depth analyses of Crunchbase user demographics, comparison studies with the Multi-aspect Integrated Migration Indicators (MIMI) dataset, and validation procedures. Thanks to this experience I have gained experience in handling complex data and addressing research questions in interdisciplinary contexts, [Github Link](#).

Supervisor: Prof. Alina Sîrbu

Publications

- 20/04/2024 **A. Sirbu, D. Goglia, J. Kim, P. M. Magos, L. Pollacci, S. Spyrtos, G. Rossetti, and S. M. Iacus**, International Mobility between the UK and Europe around Brexit: a Data-Driven Study, *Springer's Journal of Computational Social Science* DOI: [10.1007/s42001-024-00277-4](https://doi.org/10.1007/s42001-024-00277-4).
- Working **P. M. Magos, L. Simone and D. Bacciu**, ASMR: Autoregressive Mixture Density Network, - Master's Derived Article.

Research Experience

Technical University of Munich

- 10/2025 – **Research Associate**, Research Associate in the Energy Management Technologies Professorship of Prof. Dr. Christoph Goebel, contributing to the INTELLIGENT project with a focus on applying Artificial Intelligence to energy management. My role also includes teaching responsibilities, such as supervising students in seminars, project work, theses, and research internships. Additionally, I oversee the IT research infrastructure and manage the VSC systems for the professorship.

University of Pisa

- 01/2024 – **Research Fellowship**, Research Fellowship under the supervision of Prof. Alina Sirbu, focused on Post, formerly Tweets, retrieval for text sentiment analysis, image tagging, video transcription, and subsequent analysis.

Advisor : **Prof. Alina Sirbu**, Formerly Associate Professor, Computer Science Dept. University of Pisa

- 03/2022 – **HummingBird Research Collaboration**, We developed an indicator for estimating brain drain in Europe using Crunchbase data. This Research collaboration is related to my Bachelor's Degree Thesis and it was included in a research article. [Report](#).

Advisor : **Prof. Alina Sirbu**, Formerly Associate Professor, Computer Science Dept. University of Pisa

Work Experience

- Feb. 2025 – **Software & AI Engineer**, ION Trading Srl, Italy.
Present Working on the backend of a financial product, making software architecture decisions and feature development in Java. Additionally, 20% of the time is allocated to a research project exploring applications of artificial intelligence in financial systems.
- Aug. 2022 – **Freelance Software Engineer**, PRIMIS Srl, Italy.
Nov. 2022 Developed a smart routing logistics program to optimize delivery routes based on a set of orders. The system minimized both total distance and travel time using route optimization algorithms.

Awards & Certificates

- 02/2025 **Aha! Product Management Professional Certificate**
- 02/2025 **Career Essentials in GitHub Professional Certificate**
- 02/2025 **Docker Foundations Professional Certificate**
- 03/2021 – **Winner, Samsung Innovation Campus 2021 Edition** I was part of the winning group recognized for outstanding innovation and contributions during the Samsung Innovation Campus 2021 Edition.
- 09/2021

Skills

- Languages English **B2**, Italian **Native**, Romanian **Native**, German **Learning**
- Programming, Technologies **Python, Tensorflow, PyTorch, Torch Spatiotemporal, Keras, C, C++, Java, Git, Web Crawling, Vue.js**

Positions of Responsibility

- 10/2025 – **IT Research infrastructure supervisor**, *EMT*, Technical University of Munich, Oversaw the current deployment and maintenance of the laboratory's IT research infrastructure, ensuring reliable access to computing resources for students and researchers. Responsibilities included managing Kubernetes clusters and network configurations, as well as supporting AI-related workloads. Provided technical guidance and ensured system scalability and security throughout the project life cycle..
- 02/2024 – **Team Leader**, *Laboratory on ICT Startup Building*, University of Pisa, I had the opportunity to coordinate the proof of concept of a Startup idea, in the field of AI applications. The idea was based on summarization and automatic mind map creation from students' notes.
- 05/2024
- 09/2023 – **Project Manager**, *Smart Application Course*, University of Pisa, I coordinated the development of a Smart Reporting Platform for the industrial domain as part of the Master's degree program. 12/2023 Responsibilities include overseeing project milestones, managing team members, and ensuring successful project delivery.

Latest Projects

- 2023/2024 **Exams projects**, *I was part of many group projects during the Master in which we addressed many tasks related to the AI domain, like optimal path finding, writing neural networks from scratch, question generation models fine-tuning, cell analysis tools comparisons, data mining techniques and many more.*, [AIF](#), [ML](#), [DL](#), [NLP](#), [Data Mining](#), [Tools Eval](#), [Smart Report Dashboard](#).

References

Prof. Christoph Goebel, Associate Professor, School of Engineering and Design, Technical University of Munich, PhD Supervisor.

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Prof. Davide Bacciu, Full Professor, Department of Computer Science, University of Pisa, Master's Thesis Supervisor.

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MsC. Lorenzo Simone, PhD Student and Researcher, Department of Computer Science, University of Pisa & Yale University, Master's Thesis Supervisor.

✉ lorenzo.simone@di.unipi.it

Prof. Daniele Mazzei, Associate Professor, Department of Computer Science, University of Pisa and CPO, Co-Founder @ Zerynth, Leadership Roles Supervisor.

✉ daniele.mazzei@unipi.it

Prof. Alina Sîrbu, Associate Professor, Department of Computer Science, University of Bologna, Undergraduate Thesis Supervisor and Research Supervisor.

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PhD. Laura Pollacci, Postdoctoral Researcher, Department of Computer Science, University of Pisa, Undergraduate Thesis Supervisor.

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