Nick **Iliopoulos**

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Summary

Research / data scientist with an EU citizenship and over 5 years of professional experience in high-frequency algorithm design, computational statistics, and quantitative analysis of consumer behavior. Adept in developing data-driven solutions, optimizing business processes, and applying predictive analytics to forecast market trends and enhance customer experience.

Experience

09/2022 – Present **Research Scientist** Tokyo, Japan

Rakuten Institute of Technology

- Worked closely with FX, CFD, crypto traders, and portfolio managers to identify and resolve production issues, ensuring smooth trading operations.
- Designed high-frequency market-making algorithms, enhancing pricing precision and contributing to data-driven decision-making in real-time trading.
- Created an FX trading optimization framework integrating genetic algorithms and particle swarm optimization, showcasing an ability to work with advanced optimization techniques.
- Analyzed market microstructure to understand the impact of order flow and liquidity on price formation, providing insights for strategy refinement.
- Applied graph theory to identify synchronized traders, demonstrating proficiency in advanced data analysis techniques.
- Created and maintained fully automated trading systems, aligning with the need for infrastructure readiness.
- Performed extensive backtesting and validation of trading strategies with historical data to ensure their robustness and reliability.
- Built real-time interactive visualizations to monitor market conditions and trading performance, facilitating quick decision-making.
- Team lead for the Information Security Management System (ISMS), ensuring compliance with international security standards and safeguarding sensitive trading data.

10/2021 – 09/2022 **Visiting Researcher** Tokyo, Japan

The University of Tokyo

- Evaluated the influence of the COVID-19 pandemic on residential electricity consumption through a nonlinear autoregressive neural network with exogenous inputs (NARX).
- Developed a Python-based statistical analysis course for students, emphasizing applied statistics and modern code packages with a strong focus on visual outputs.
- Guided, trained and advised master's and Ph.D. level students on research techniques, methods and procedures.

09/2019 – 01/2020 **Research Scientist** Tokyo, Japan

Waseda University

- Developed an XGBoost-based algorithm to forecast the flexibility of residential loads, enhancing provincial grid energy efficiency.
- Collaborated with academia and industry in the energy sector in Japan and Canada, presenting my work on demand response to foster innovation and practical application.

01/2018 – 03/2018 **Research Scientist** Kyoto, Japan

Kyoto University

- Conducted an in-depth analysis of the main opportunities and challenges of the low-emission development strategies of Tokyo's built environment and synthesized the results in a peer-reviewed publication.
- Served as a scientific correspondent for various organizations, translating complex scientific research into accessible language for the general public.

04/2015 – 04/2016 **Data Scientist** Athens, Greece

Starlight

- Analyzed consumer behavior trends and designed descriptive and predictive modeling algorithms reducing the cost of customer acquisition.
- Set up and performed A/B tests to optimize UI changes, directly impacting key performance indicators.
- Streamlined data collection processes using scripting and automation tools, significantly increasing efficiency.

10/2014 – 03/2015 **Data Analyst** Athens, Greece

Relay

- Analyzed client data to uncover trends and insights, creating visualizations to support business decisions.
- Automated the process of analysis and visualization of business KPIs (e.g., ticket resolution time) using SQL and Python.
- Responded to ad hoc data requests from various departments, providing timely and accurate data analysis.
- Continuously monitored and ensured the quality and integrity of data.

Education

2018 – 2021 **Doctor of Philosophy (Sustainability Science)** Tokyo, Japan

The University of Tokyo

- Worked on energy efficiency optimizations in smart grid area networks using a Markov decision process.
- Japanese government [Monbukagakusho: MEXT] scholarship recipient (awarded 120,000 USD equivalent).

2016 – 2018 **Master of Science (Sustainability Science)** Tokyo, Japan

The University of Tokyo

2010 – 2015 **Bachelor of Science (Economics)** Thessaly, Greece

University of Thessaly

Skills

Programming Languages: Python, R, SQL, PySpark
Supporting Technologies: Git, Docker, SPSS, ArcGIS, Adobe Creative Suite, big data frameworks (Spark/Hadoop)
Techniques: AI/ML/DL, machine learning, numerical & algorithmic optimisation, computational statistics, model discrimination
Publications: 7 as first author, 5 as contributing author. Areas including environmental science, energy & behavioral economics, statistics