Summary

Research / data scientist with an EU citizenship and over 5 years of professional experience in AI/ML/DL applications, big data analytics, computational statistics, and quantitative analysis of consumer behavior. Adept in developing machine learning models, optimizing data-driven solutions, and applying predictive analytics to enhance business outcomes and customer experience.

Experience

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

Rakuten Institute of Technology

- Designed, coded, and implemented machine learning models to enhance pricing precision by 16% across 15+ currency pairs, reducing market risk and enhancing real-time trading decision-making.
- Mined large datasets of customer and market data to discover actionable insights, driving improvements in trading strategies and customer engagement.
- Worked closely with developers, traders, and portfolio managers to deliver daily results and resolve production issues, ensuring smooth trading operations.
- Applied graph theory and community detection methods (Louvain algorithm and Clique Percolation method) to identify synchronized traders, generating a monthly PNL exceeding 40M JPY.
- Performed extensive backtesting and validation of AI/ML models 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 (matplotlib, plotly, bokeh, JS callbacks).
- 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 by 10%.
- 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.

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 by 20%.
- Set up and performed A/B tests to optimize UI changes increasing conversion rate by 13%.
- Streamlined data collection processes using scripting and automation tools, increasing data collection efficiency by 50%.

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 reducing manual reporting by 5 hours per week.

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 (with extensive experience in PySpark), SQL, R
AI/ML/DL: Proficient in AI/ML/DL techniques and frameworks, including experience with relevant open-source libraries
Big Data: Hands-on experience with big data frameworks, including Spark and Hadoop
Data Engineering: Experience in data engineering, including data collection, preprocessing, and analysis using Spark and Hadoop
Supporting Technologies: Git, Docker, SPSS
Techniques: machine learning, numerical & algorithmic optimisation, computational statistics, model discrimination
Soft Skills: Excellent communication and interpersonal skills, proven ability to work effectively in a multicultural team environment, both independently and collaboratively
Publications: 7 as first author, 5 as contributing author. Areas including environmental science, energy & behavioral economics, statistics