Panagiotis Valsamis

Location: Oberkorn, Luxembourg
LinkedIn | GitHub | Personal Webpage
Email: panagiotis.valsamis21@gmail.com

Summary

Mathematics graduate with interests in statistics, machine learning, and data science. During my bachelor studies I built a strong mathematical background and emphasized statistics and data science courses. I am passionate about solving problems through creative coding solutions and enjoy tackling complex optimizations. Currently studying a Master's in Data Science (enrolled in the third semester) achieving very good academic performance (**ranked 3rd out of 25 students**).

Education

Master of Science in Data Science 09/2024 – 08/2026
University of Luxembourg — Esch-sur-Alzette, Luxembourg ***GPA: 16.30/20***
Selected coursework: R & Python Programming(16.5), Probability Theory (17.0), Statistical Learning (20.0), Data Visualization (18.2), Machine Learning (18.0), NLP,Mathematical Statistics II(16.5), Bayesian Statistics, Deep Learning, Statistical Modelling, NoSQL, Time Series Forecasting, Supply Chain

Bachelor in Mathematics 09/2018 – 07/2023
Aristotle University — Thessaloniki, Greece ***GPA: 6.93/10***

Personal Projects

Electrocardiogram Classification *Python, TensorFlow* Source Code

- Preprocessed ECG signals into 1D numerical sequences for deep learning input.
- Designed a custom 5-block 1D-ResNet achieving **98% accuracy** and **90% macro F1-score**.
- Applied dropout and early stopping to mitigate overfitting.

Brain Tumor Classification *Python, PyTorch* Source Code

- Developed a 2D+1D CNN architecture combining ResNet transfer learning with attention mechanisms for image classification.
- Implemented class imbalance handling through weighted sampling and loss functions for image dataset.
- Applied advanced regularization techniques including early stopping, dropout, and adaptive learning rate scheduling.
- Achieved **97% test accuracy** on 4-class brain tumor classification (glioma, meningioma, pituitary, healthy tissue).

Stock Prediction *Time Series Forecasting, Python, ARIMAX* Source Code

- **Developed a systematic NVDA trading strategy** using walk-forward ARIMA modeling that generated **131% total returns vs. QQQ's 54%**, achieving **2.4x market outperformance** over 2020-2025 with a 0.71 Sharpe ratio.
- **Engineered production-ready framework** with automated rolling retraining (1/5/20-day horizons), feature engineering (MACD lags, volume z-scores, market return signals), and hyperparameter optimization across ARIMA parameters and scalers.
- Integrated comprehensive risk management with Sharpe ratios, drawdown analysis, and rolling diagnostics.

Portfolio Optimizer *Python,Streamlit,Risk Analysis* Source Code

- **Developed a Python portfolio optimization application** using Streamlit,implementing different optimization strategies including **Maximum Sharpe Ratio**,**Minimum Variance** and **Risk Parity** to help investors create optimal portfolios.
- **Build advanced analytics and Monte Carlo simulation engine** featuring Value at Risk **(VaR)** along with **CVaR** and **Maximum Drawdown** calculations using historical,parametric and Monte Carlo methods for portfolio risk assesment.
- **Designed an automated portfolio rebalancing system** with real data integration via Yahoo Finance API, helping users input current holdings and generate optimizer rebalanced orders and forecast future portfolio performance via confidence intervals.

Recommender Systems *Python*

- Implemented **transactional** (FP-growth), **Item–Item** (cosine), and **User–Item** (NMF + NCF) recommenders with unified evaluation.
- Engineered item/user profiles; produced top-N recommendations and benchmarking pipeline.

Experience

Internship Feb 2023 – May 2023
National Bank of Greece *Larissa, Greece*

* **Cross-Selling and Customer Services:** Helped customers identify financial needs and promoted additional banking products.
* **Insurance Products Promotion and Sales:** Promoted and sold insurance products, explaining benefits and terms to clients.
* **Business & Investment Loans Training:** Studied assessment process, loan structures, and risk evaluation for business and investment lending.

Military Service Sep 2023 – Jun 2024
Hellenic Army *Athens & Alexandroupoli, Greece*

* **Basic Training (2 months):** Developed discipline, teamwork, and physical endurance while following military protocols and procedures.
* **Cafe–Restaurant Management (7 months):** Managed daily operations and financial tasks (budgeting, inventory control), and improved customer satisfaction by ensuring high standards of service.

Key Competencies

Technical Skills

- **Languages & DBs:** Python, R, SQL, MongoDB, Neo4j
- **ML/DL:** scikit-learn, TensorFlow, PyTorch, NLP
- **Visualization:** pandas, NumPy, ggplot2, Matplotlib, Plotly, Power BI
- **Big Data:** Hadoop, Apache Spark
- **UI Interactive Report:** Streamlit, Flask, Quarto, Jupyter Notebook

Soft Skills

- **Teamwork and Collaboration:** Ability to work well with others toward a common goal.
- **Problem-Solving:** Identifying issues and finding effective solutions.
- **Critical Thinking:** Analyzing information logically to make reasoned decisions.
- **Project Management:** Planning, organizing, and overseeing projects to ensure timely delivery and budget adherence.
- **Languages:** Greek (Native), English (C1 IELTS and C2 Michigan), German (A2), French (A1).
- **Adaptability:** Quickly learning and applying new technologies.

Certificates

Personal Webpage — Uploaded certificates and projects.