Ricardo Fraga Simões

LinkedIn | +351917222601 | ricardo.fernandes.simoes@gmail.com | GitHub

Skills

- Python and R programming languages for Data Science and Machine Learning applications (Libraries: Pandas, Matplotlib, Numpy, Sklearn, PyTorch, Keras, TensorFlow, etc)
- Probabilities and Statistics | Statistical Methods for Data Science | Stochastic Processes | Time Series Analysis | Biostatistics | Multivariate Analysis | Generalized Linear Models | Financial Mathematics | Advance knowledge in Machine Learning and Deep Learning models
- Portuguese Native Speaker, Fluent in English, Basic knowledge of French

Experience

Head of Quantitative Trading — **Técnico Investment Club** — *Lisbon, Portugal* - **02/2023 - Current**

- Supervised and monitored projects related to Portfolio Optimization, Reinforcement Learning and Data Science for Finance
- Performed weakly meetings with all team members to keep on track with the objectives and reported results to Board members
- Engaged with Quantitative Trading firms to create presentations and workshops for the Club

Team Member - Quantitative Trading — *Lisbon, Portugal* - **05/2022 - 02/2023**

- Team leader of a team of four BSc students – helped them understanding basic concepts of Machine Learning and Data Science and how to apply them to finance datasets
- Started a project related to an old Master's thesis work – Assess how financial ratios and performance metrics are related to long-term market performance, of S&P500 companies

Financial Coordinator — **Semana Empresarial e Tecnológica** — *Lisbon, Portugal* - **08/2021 – 03/2022**

- Co-coordinator of a large Career Fair at my local university. Managed the flux of money for the event, prepared financial reports, and participated in meetings with other coordinators to plan and manage the event

Education

MSc in Data Science and Engineering — **Instituto Superior Técnico** — *Lisbon, Portugal* - **08/2021 - Current**

- Deep Learning: 19/20 | Machine Learning: 18/20 | Multivariate Analysis: 17/20 | Time Series: 16/20 | Biostatistics: 19/20 | Current grade: 18/20
- Currently doing my Master's thesis related to Undirected Neural Networks

Erasmus Student — **Technical University of Munich** — *Munich, Germany* - **08/2022 – 03/2023**

- Generalized Linear Models (1.0) | Financial Mathematics (2.3) | Data Analysis and Visualization in R (2.0) | Grades in German Scale

BSc in Industrial Eng. and Management — **Instituto Superior Técnico** — *Lisbon, Portugal* - **08/2018 – 06/2021**

- Finished Bachelor's with the highest grade of all Class: 18,4/20

Projects

- **Computer Vision for Cell Cycle Regulation:** Helped a team of Biologists at one of the biggest research laboratories of Portugal (IGC) to automate the detection of centrosomes in interphase and mitotic cells, using State-of-Art Deep Learning Models **(08/2022 – 03/2023)**
- **Deep Learning Course Assignments:** Solved theoretical exercises, implemented NNs from scratch, did Image Classification with CNNs and Image Captioning tasks (encoder-decoder models with and without Attention Mechanisms) **(01/2022 – 02/2022)**
- **Computational Methods for Physics and Finance problems:** Implemented in Python numerical methods to solve different types of PDEs (Leapfrog, Crank–Nicolson and ADI schemes, Semi-Smooth Newton Two level Multi-grid methods, etc) **(02/2022 – 06/2022)**
- **Time Series Analysis of Environmental and Financial Data:** Applied SARIMA-type and GARCH-type models for different problems. Performed EDA, identification of the dependence orders, parameter estimation and residuals diagnosis **(02/2022 – 06/2022)**
- **Application of Generalized Linear Models (GLMs):** Studied and Implemented different GLMs – Logistic, Binomial, Poisson, Gamma, and Log-linear Regression models. Datasets were related to Insurance, Bank Loans, etc. **(08/2022 – 03/2023)**
- **Assessing the impact of key health indicators on Maternal Mortality:** Performed tasks like visualization in low-dimensional space, outlier detection, hypothesis testing and modelling **(02/2022 – 06/2022)**
- **Understanding and Prediction of Myocardial Infarction:** Studied Myocardial Infarction problem on a large dataset, performed EDA, feature selection and applied supervised learning models with hyperparameter tunning **(08/2021 – 02/2022)**

Recognitions

- **Two Scholarships**: ULisboa Scholarship for Academic Merit **(2018/2019 and 2019/2020)**
- **Multiple Academic Merit and Excellence Awards**: Prizes for top students of the year **(between 2018/2019 and 2022/2023)**