Andrea Dapor

PhD · Theoretical Physics · Data Science

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Experience

Oct. 2024 – Today: Senior Quant Data Scientist, Engie (Spain) – Develop and deploy ML models for energy trading optimization, price forecasting and automated short-term strategies. Collaborate with traders and market analysts to achieve P&L objectives. Lead MLOps initiatives to streamline model deployment. Leverage advanced analytics to provide insights to leadership.

✶ Developed a day-ahead price forecast model for the Spanish market, which outperforms third-party providers (RMSE reduction of over 25% vs Aleasoft and Wattsight), enabling traders to refine strategies.

✶ Identified, back-tested and deployed a suite of automated bidding strategies arbitrating among intraday markets, currently capturing an average spread of 2.84 EUR/MWh, generating approximately 1500 EUR/day.

✶ Leading the definition and rollout of an MLOps framework in collaboration with IT and data engineers, spearheading its adoption among Data Science practitioners in Engie España.

Oct. 2022 – Oct. 2024: Senior Data Scientist, Ebury (Spain) – Responsible for all data science projects in the areas of Pricing and Credit Risk. Pioneer company-wide LLM adoption. Work with quants and credit analysts to improve their processes. Support junior data scientists in their own projects.

✶ Redesigned the exposure forecasting model to include pricing of options and other synthetic products, allowing credit risk and treasury to better control the position of the portfolio and account for market risk.

✶ Unlocked value from clients data, by deploying an LLM-based ingestion process, which extracts financial data from unstructured spreadsheets. The speeding up of the underwriting process was estimated at 20%.

✶ Improved employee productivity by developing a LLM-based chatbot that can answer cross-enterprise internal questions, as well as analyze uploaded texts and urls. It currently averages over 200 daily users.

Oct. 2020 – Oct. 2022: Data Scientist, Inverence (Spain) – Analyze data and program algorithms for decision-making purposes, working in projects for several clients from various industries.

✶ Reduced churn for a major Spanish occupational hazard insurance company, by identifying customers at risk (with a Bayesian logit model) and designing counter-actions with the stakeholder.

✶ Modeled the progression of infection during the Covid19 pandemics, for the Carlos III Health Institute. The model was used to simulate the effects of different vaccination strategies.

Oct. 2018 – Oct. 2020: Postdoc, Louisiana State University (USA) – Carry out research in quantum cosmology. Execution of simulations of the early universe. Scientific communication and outreach.

✶ Published several papers in scientific journals (details). Invited speaker at international conferences.

Oct. 2015 – Oct. 2018: Postdoc, University of Erlangen-Nuremberg (Germany) – Perform research in quantum gravity, modeling the microscopic structure of spacetime. Mentoring and teaching.

✶ Mentored students and taught several university courses, from quantum mechanics to general relativity.

Education

Oct. 2011 – Oct. 2015: PhD in Theoretical Physics, University of Warsaw (Poland)

Skills

Data Science and Dev	ML Algos and Modeling	Consulting	Fintech and Others
python (PyCharm, Jupyter)	GenAI (LLMs, embeddings, RAG)	curiosity, versatility	financial products (fwds, options)
databases (SQL, BigQuery, Athena)	time series (ARIMA, State Space)	problem-solving, solution design	pricing (Black-Scholes, Monte Carlo)
cloud computing (GCP, SageMaker)	Bayesian estimations (MCMC)	business focus	risk modeling (exposure, VaR)
deployment (Docker, Cloud Run)	standard algos (XGBoost, PCA, …)	effective communication	energy markets, bidding strategies
visualization (Data Studio, streamlit)	probability, statistics, linear algebra	dealing with business stakeholders	English, Spanish, Italian