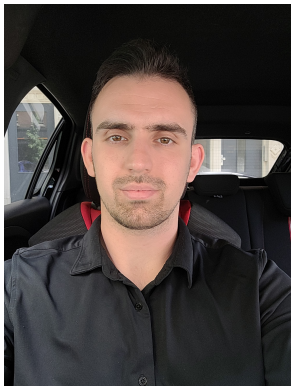
Chrisostomos-Panagiotis Stamou

Leiden, The Netherlands
Email: c.p.stamou@gmail.com
GitHub: github.com/ChrisStamou
LinkedIn: linkedin.com/in/chris-stamou
Personal Portfolio Website: chrisstamou.github.io



Data Analyst — Physics MSc — Statistical Modeling & Data Science

MSc Physics graduate from Leiden University, specialized in Cosmological Data and Statistical Inference. Proficient in Python, Bayesian Frequentist inference, and large-datasets analysis. Experienced in building and testing models, analyzing and extracting insights from complex datasets. Recently expanded into AI with a hands-on project on fraud detection (Logistic Regression Random Forest), integrating technical performance with business-oriented metrics. Strong communicator with leadership experience in high-pressure environments. Eager to apply scientific rigor, analytical expertise, and AI/ML skills to real-world challenges in consultancy and business.

Technical & AI Skills

- **Programming:** Python (NumPy, SciPy, Pandas, Matplotlib, scikit-learn, XGBoost, emcee, dynesty), R (learning – intermediate), HTML/JavaScript (developed personal portfolio website), Mathematica
- **AI & Machine Learning:** Logistic Regression, Random Forest, XGBoost; model evaluation (ROC/PR curves, Precision, Recall, F1, AUC); feature importance analysis (coefficients, permutation importance, SHAP); building end-to-end predictive pipelines
- **Data Tools:** SQL, Power BI, Tableau, Excel, Git
- **Documentation & Writing:** LaTeX, Microsoft Word, PowerPoint
- **Methods:** Bayesian Inference, MCMC, Nested Sampling, χ^2 analysis, Fisher Statistics, Statistical Forecasting
- **Languages:** Greek (native), English (C2 certified, fluent – MSc conducted in English), Dutch (Conversational), German (B1, Goethe Zertifikat)
- **OS:** Windows, Linux

Education

MSc in Physics (Cosmology)
Leiden University, The Netherlands — 2020 – 2025 (Ceremony pending)

BSc in Physics (Theoretical Physics & Mathematics)
University of Ioannina, Greece — 2015 – 2020

AI Projects

Promotion Prediction for Workforce Planning — AI Business Case (2025)

- Designed an AI pipeline on **synthetic data** (5,000 employees) to predict which employees are likely to be promoted within 12 months, supporting HR in workforce and financial planning.
- Trained and compared **Logistic Regression**, **Random Forest**, and **XGBoost** models with stratified train-test splits, preprocessing (scaling and one-hot encoding), and hyperparameter tuning.

- Evaluated models with Accuracy, Precision, Recall, F1, ROC AUC, and PR AUC. Logistic Regression delivered the best balance of interpretability and performance (ROC AUC = 0.782, Recall = 0.747).
- Produced feature importance plots and examples of top-10 likely and unlikely promotions, demonstrating actionable insights for HR interventions.
- Achieved an estimated **85–90% time saving per promotion cycle**, reducing a month-long manual HR process to hours while improving fairness and consistency.
- Tools: Python, NumPy, Pandas, scikit-learn, XGBoost, Matplotlib, Seaborn; LaTeX (Overleaf) for reporting.
- **GitHub:** github.com/ChrisStamou/AI-Promotion-Prediction

Fraud Risk Ranking for Vehicle Insurance — AI Business Case (2025)

- Built an end-to-end machine learning pipeline on **synthetic data** (5,000 claims) to detect high-risk fraudulent insurance claims.
- Trained and compared **Logistic Regression** and **Random Forest** models, using an 80/20 train-test split, scaling of numeric features, and one-hot encoding of categorical features.
- Evaluated performance with ROC AUC, Precision, Recall, and F1, applying a **capacity-aligned flag rate** (25%) to simulate real investigation constraints.
- Achieved AUC = 0.898 (Logistic Regression), Precision = 0.332, Recall = 0.798; reducing workload by 75% while maintaining ∼80% fraud detection.
- Tools: Python, NumPy, Pandas, scikit-learn, Matplotlib, Seaborn; LaTeX (Overleaf) for reporting.
- **GitHub:** github.com/ChrisStamou/AI-Case-Insurance-Fraud-Detection-with-AI

Data & Research Projects

Impact of Late-Time Transition in SnIa Luminosity on Cosmological Parameter Estimates — Master's Thesis (2025)

- Tested the change on the best-fit values of cosmological models and cosmographic expansion upon incorporating a late-time transition in Supernovae Ia luminosity.
- Applied MCMC sampling, Nested Sampling, and χ^2 statistics to fit models to observational data and then compare them.
- Tools: Python, NumPy, SciPy, Pandas, scikit-learn/Linear Regression, Matplotlib, emcee, dynesty, LaTeX.
- **GitHub:** github.com/ChrisStamou/Thesis-2025

Combining Weak Lensing and Galaxy Polarization — Master's Thesis (2022)

- Created optimal shear estimators combining galaxy shape and light polarization data to improve signal-to-noise.
- Used simulated data and analytical derivations to validate estimator performance.
- Tools: Python, treecorr, theoretical modeling, LaTeX.
- **GitHub:** github.com/Chrisostomos-Stamou/Combining-Weak-Lensing-and-Galaxy-Light-Polarisation

Effective Newton's Constant in Modified Gravity — Bachelor's Thesis (2020)

- Studied how various modified gravity models predict time-evolving gravitational constants.
- Derived analytical relations using cosmological perturbation theory and compared them to cosmological constraints.
- Tools: Mathematica, RGTC package, analytical modeling, LaTeX.

Work Experience | Hospitality Manager | Sociale Hygiene (SVH) Certified

Manager | Full-Time | Ristorante Nerello (Top 500 in NL), Rotterdam
Sep 2024 – Present

- Led a team in a high-end restaurant environment with operational and personnel responsibilities, ensuring service standards under pressure.

Manager | Full-Time | Rodos Good Taste, Leiden
Feb 2024 – Sep 2024

- Oversaw daily operations, managed HACCP compliance, and handled inventory orders for both kitchen and bar.

Manager | Full-Time | Very Italian Pizza (VIP), Leiden
Dec 2022 – Jan 2024

- Managed supply orders for bar and kitchen, created weekly staff schedules, and supervised floor and kitchen operations. Coordinated invoice documentation for accounting, closed the daily register, and tracked worked hours by clocking out staff. Also prepared contract-related paperwork for new hires.

Assistant Manager | Full-Time | VIP, Leiden
Sep 2022 – Dec 2022

Waiter | Part-Time | VIP, Leiden
Sep 2021 – Sep 2022