Farhad Chichgar

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EDUCATION

University of Bristol **Bristol, UK**
MSc Financial Technology & Data Science Sep 2025 – Sep 2026

- First Term Average: 77% (Distinction) • Highest score in Financial Technology (83%)
- Achievements: 1st place 180DC Datathon (solo, 20+ teams) • 2nd runner-up Jane Street Estimathon • Highest PnL in AmplifyME buy-side simulation (250+ students)
- Modules: Algorithmic Trading, Statistical Computing, AI & Data Analytics, Large-Scale Data Engineering

University of Bristol **Bristol, UK**
BSc Data Science Sep 2021 – Jun 2025

- Overall Grade: 2:1 • Dissertation Grade: 1:1
- Modules: Statistical Machine Learning, Time Series Analysis, Financial Risk Management, Python/R/C++
- Activities & Societies: Data Science Society, Trading Society, Math Society, Pool and Billiards Society

WORK EXPERIENCE

Solytics Partners **New York City, USA**
Risk Analyst Sep 2023 – Apr 2024

- Developed Student-t copula model for multi-asset tail risk forecasting using Python, reducing 99% Value at Risk exception rate by 39% versus Gaussian baseline, improving capital allocation decisions under extreme scenarios
- Constructed default prediction signal on 35,000 observations using regularised logistic regression in Python with engineered features; achieved 0.78 AUC with 15% lift over baseline, projecting 10-15% reduction in portfolio losses
- Built Python/R stress testing platform quantifying tail losses for 100 commercial real estate assets across 7 climate scenarios by region and type; presented interactive tool in successful HSBC UK contract pitch
- Optimised Monte Carlo engine by vectorising code and implementing Python Numba JIT compilation, achieving 6.7× speedup; enabled faster stress testing and risk quantification for bank clients on Nimbus Uno platform

180 Degrees Consulting **Bristol, UK**
Team Lead Feb 2026 – Present

- Led team of 4 building NLP pipeline to extract predictive signals from 300k+ messages and 2,500 emails at GrappleAI (AI legal-tech startup); engineered features identifying drivers of settlement outcomes

PROJECTS

Fixed-Income/FX Derivatives Pricing Platform [Code] [Demo] Jun 2024 – Jul 2025

- Engineered real-time derivatives pricing platform computing 2,500 option valuations and Greeks; enabled traders to stress-test portfolios across ±100bp rate shock scenarios with interactive 3D price surface visualisation
- Built volatility calibration models fitting market option quotes to 0.05 vol point accuracy across 30+ expiries (SVI for equity, SABR for FX); enabled precise implied volatility surfaces for derivatives pricing and risk analysis

Macroeconomic Forecasting with Dynamic Factor Models [Code] [Paper] Sep 2024 – Feb 2025

- Compressed 127-variable macro dataset to 3 core factors retaining 55% of variance through principal component extraction; reduced model complexity enabling 98% faster computation for forecasting workflows
- Discovered recession leading indicator rising 6-12 months before NBER downturn dates, validated across 3 business cycles (2001, 2008, 2019 pre-COVID); enabled early-warning system for portfolio de-risking strategies
- Extended static to dynamic factor model improving R^2 from 80.3% to 84.6%; reduced forecast errors by 6-7% versus AR baseline at 1-3 month horizons, enabling improved turning-point detection for recession risk assessment

Horse Racing Prediction Machine Learning Model [Code] [Paper] May 2025 – Jun 2025

- Developed LightGBM prediction model achieving 8.7% gap vs Betfair market odds; engineered 68 features including trainer-course specialisation, speed consistency, and competitive context with race-relative normalisation
- Implemented regularisation pipeline (Bayesian smoothing, feature capping, L1/L2 tuning) preventing overfitting; achieved <0.03 calibration error vs. win rates across 2,000+ test races, enabling systematic betting strategy

TECHNICAL SKILLS

- **Programming:** Python (scikit-learn, LightGBM, XGBoost, PyTorch), R (caret), SQL, C++
- **Tools:** Git, Linux, Docker, AWS/Google Cloud, Hadoop, LaTeX
- **Quantitative:** Time Series Analysis, Stochastic Calculus, Monte Carlo, Markov Chain Monte Carlo, Statistical Inference, Derivatives Pricing, Optimisation