



Dr Jonathan A. Tepper

Lead Data Scientist & Forecasting Specialist

Contact

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ORCID
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LOCATION
Derby, United Kingdom

Skills

Python · PyTorch · scikit-learn

Time-series forecasting

Neural ensembles · LSTM · MRN

Statistical inference · causal · A/B

LightGBM · XGBoost · CatBoost

MLflow · DVC · Git

AWS · MariaDB · Docker

Domains

- FX & CFD trading systems
- Macroeconomic forecasting
- Sports analytics (MLB)
- Behavioural & segmentation modelling

Profile

Lead data scientist with **15+ years** delivering production ML end-to-end – problem definition through deployment and monitoring. Practitioner-academic translating business challenges into production-ready forecasting and classification systems.

Core expertise

TECHNICAL LEADERSHIP

Multi-stream ML ownership; cross-stream technical direction.

CLASSIFIER ENSEMBLES
Calibration, threshold optimisation & cost-sensitive learning.

BEHAVIOURAL MODELLING
Segmentation & propensity modelling under weak signals.

PROBLEM FRAMING

Business ambiguity → structured, measurable delivery roadmaps.

TIME-SERIES
RNN, ARIMAX, SARIMAX, VAR & regime-switching in non-stationary settings.

STATISTICAL INFERENCE
Hypothesis tests, CIs, causal identification & A/B uplift.

HIGH-STAKES FORECASTING

Regression, NN & tree-based decision analytics under uncertainty.

PRODUCTION ML
MLflow, version control & AWS RDS/S3 deployment pipelines.

ROBUST DELIVERY

Imbalance, drift & distribution shift; validation discipline.

Experience · current

Founder & Lead Data Scientist

Perceptronix Ltd · Derby, United Kingdom **2018 – present**

- Owns technical direction and end-to-end delivery on commercially sensitive projects spanning capital markets, sports analytics and macroeconomic policy.
- Designed and shipped live forecasting and classification systems for FX / CFD markets and sports analytics where the cost of error is material.
- Built large-scale ensembles (hundreds to thousands of fine-tuned neural and tree classifiers) for directional prediction and spread-based outcomes.
- Production ML stack: LGBM and deep ConvNet ensembles for classification; SARIMAX, VAR and bespoke RNN/LSTM approaches for forecasting.
- Produced UK CPI inflation forecasts within $\pm 0.2\%$ error for the National Institute of Economic and Social Research (NIESR), informing UK economic policy.
- Co-led EPSRC-funded MASCET with Birmingham & NIESR — integrated econometrics with recurrent neural networks for macroeconomic forecasting at policy level.
- Applied **causal inference & experimental design** via counterfactual analysis, treatment/control design and A/B uplift testing.

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Lead Data Scientist · Founder,
Perceptronix Ltd

✓ Highlights

- 15+ years production ML
- 35+ peer-reviewed papers
- ±0.2% UK CPI forecast error
- 6 PhDs supervised to completion

☆ Recognition

- Fellow, Higher Education Academy (FHEA #29326)
- Member, INNS (#60961)
- Reviewer, *Nature · Scientific Reports*
- Programme Committee, IJCNN

📄 Selected venues

- Trends in Cognitive Science
- Knowledge-Based Systems
- Physica A · AI in Medicine
- J. Risk & Financial Mgmt.

📚 Experience · current & earlier

● MSc Project Supervisor

Aston Business School · Aston University 2022 – present

- Supervises MSc Business Analytics / Data Science projects covering **statistical inference, hypothesis testing, confidence intervals, experimental design**, forecasting, consumer behaviour and applied analytics.
- Guided projects on recession prediction, marketing-mix modelling, insolvency risk, employee churn, house prices, COVID growth and YouTube virality modelling.
- Mentored students in regression, panel-data and machine-learning models on large-scale datasets.

● Principal Lecturer · Quality Manager · Course Leader

Nottingham Trent University · School of Science and Technology
2005 – 2018

- **Course Leader**, MSc Data Analytics for Business — designed and launched a part-time MSc that attracted professionals from HM Government, Credit Suisse, Equifax, NHS and Rolls-Royce.
- Led curriculum strategy across **120+ programmes and 400+ modules** and enabled 200+ academic staff as a member of the Senior Management Group.
- Chaired curriculum and quality sub-committees, secured external accreditation and influenced cross-institutional policy.
- Mentored junior faculty and supervised **six PhDs** to successful completion.

● Senior Lecturer · Real-Time Software Engineer

Nottingham Trent · Leeds Metropolitan · Marconi
Communications

1998 – 2005

- Senior Lecturer in Computer Science (NTU 2001–2005, Leeds Met. 2000–2001).
- Real-Time Software Engineer at Marconi Communications (1998–2000).

🎓 Education

PhD, Computer Science · Modular neural architectures for language processing · Nottingham Trent University

PGCert Higher Education (Distinction) · Nottingham Trent University

BSc (Hons) Computing Systems (2:1) · Nottingham Trent University