Ben Barlow

(+44) 7720 968491 | ben.j.barlow.1@gmail.com
ben-j-barlow.github.io | ben-j-barlow | ben-j-barlow

Key: Grade   Hyperlink   Skill

Education

University of Edinburgh · MSc in Artificial Intelligence *Edinburgh, UK*

Awarded maximal classification: Distinction · Dissertation: 84% *Sep 2022 - Aug 2024*

Machine Learning Pattern Recognition · Probabilistic ML · Reinforcement Learning · Deep Learning

Stats Bayesian Statistical Models · Monte Carlo Methods · Missing Data & Imputation

University of Warwick · BSc in Computer Science & Statistics *Coventry, UK*

Awarded maximal classification: First-Class Honours · Dissertation: 84%; Class rank: 1st *Oct 2017 - Jun 2020*

CS OOP · Algorithms · Data Structures · Databases · Software Engineering

Maths Linear Algebra · Multivariate Calculus · Real Analysis · **Probability** Foundations · Stochastic Processes

Stats Parameter & Interval Estimation · Hypothesis Testing · Freq. Statistical Models

Work Experience

Rokos Capital Management (via Neptune North) ⓘ Macro hedge fund, $20bn AuM *Newcastle & London, UK*

DATA ENGINEER Python Databricks SQL DBT Azure Data Factory *Apr 2025 - Present*

Use Python and SQL to ingest and analyse alternative data sources from financial vendors, supporting analytical workflows across quant teams.

- Currently pioneering integration of Databricks apps into team's existing Databricks Asset Bundle deployment mechanism.
- Deployed a data analytics tool for time series data, applying statistical techniques for outlier detection. Time Series Data Quality
- Ingested batch (ETL) and streaming data using Azure Data Factory , Databricks Workflows, and Azure Event Hub .
- Demonstrated desire to learn by pursuing CFA Investment Foundations and Databricks Certified Data Engineer Associate certificates.

School of Informatics (University of Edinburgh) & FC Laboratories Ltd *Edinburgh, UK*

PYTHON DEVELOPER & DATA SCIENTIST Python Poetry matplotlib networkX pytest Git *Jan 2023 - Jan 2025*

- Balanced academic studies and part-time jobs in data science, working in a university research environment and an early-stage startup.
- Conceptualised, implemented, and tested bespoke Python packages, addressing performance bottlenecks through memory and time profiling.

Account Technologies ⓘ FinTech, credit provider, £100mn revenue, 500k customers *London, UK*

DECISION SCIENTIST *Oct 2020 - Jul 2022*

Interacted with transactional, credit bureau, operational, financial, compliance, marketing, and customer data using Python to develop bespoke

packages and the PyData stack to visualise data, train machine learning models, and report on business metrics. Python SQL

- *Example Project.* Increased profitability (£100,000s) by identifying populations of unprofitable customers and blocking their acquisition. Found populations using decision trees split on consumer spending habits with automated search over hyperparameter space. Tested statistical significance of populations through single-group z-tests. Airflow Hypothesis Testing Hyperparameter Tuning
- Read Effective Python: 90 Ways to Write Better Python and presented key insights to new hires.
- Developed production code to serve fake bank account transactions via a web app for UAT. FastAPI Docker SQLAlchemy

Internships at Thomas Miller & Prudential plc *London, UK*

ACTUARIAL INTERN (TM) & NATURAL LANGUAGE PROCESSING INTERN (PRU) R ggplot2 Monte Carlo Sim. *Jul 2019 - Aug 2019 & Sep 2018*

Research Experience

Intelligent Systems Lab & Mineral-X, Stanford University ⓘ Labs in AI & mineral exploration *Palo Alto, USA*

STUDENT RESEARCHER (MSC DISSERTATION) Advisor: Robert Moss Blog Code Thesis *Jun 2024 - Aug 2024*

Thesis titled 'Intelligent Optimisation of Borehole Geophysics Planning for Critical Mineral Exploration'. Achieved 84%

- Received three weeks of in-person supervision from advisor (a Stanford computer science PhD candidate) and colleagues at his lab (SISL).
- Implemented path planning for an agent exploring a mineral exploration environment by modelling data acquisition as a partially observable Markov decision process and using Monte Carlo methods for planning. Julia MCTS (PO)MDP Planning Probabilistic Modelling
- Learned rapidly, as shown by integrating a new domain, AI technique, and programming language, delivering results within twelve weeks.

University of Warwick *Coventry, UK*

STUDENT RESEARCHER (BSC DISSERTATION) Advisor: Ioannis Kosmidis Code Thesis *Oct 2019 - May 2020*

Thesis titled 'Shrinkage-driven Unsupervised Learning with Clustering Applications'. Achieved 84% Class rank: 1st

- Defined a new family of regularised copula-based mixture models that overcome the limitations of Gaussian mixtures. Copula
- Implemented methods for model estimation (using ECM algorithm) and model selection (using silhouette width and BIC). R C++ EM Alg.

Extracurricular Activity

University of Warwick Men's Football Club *Coventry, UK*

DIRECTOR OF FOOTBALL & FIRST TEAM CAPTAIN *Mar 2019 - Mar 2020*