

Gabriel Bridger

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Education

University of Nottingham

MSci, Computer Science with AI (Integrated Masters)

June 2029

First Year Grade: **78%**

- Program Includes a year in Industry Placement (2026-2027) and culminates in a Master's Level Qualification

Relevant Courses: Fundamentals of AI, Intro to Software Engineering, Programming Paradigms, Data Analysis

Skills

Languages: Python, Haskell, SQL, C, Java

Libraries/Frameworks: TensorFlow/PyTorch, Scikit-Learn, Pandas, NumPy, Matplotlib, yfinance

Tools & Platforms: Docker, Git, Linux, MacOS, Windows

Experience

Prototyping Artificial Intelligence Workflows | Kinetic Labs Work Experience

April 2025

- Analyzed internal business workflows to identify opportunities for **Artificial Intelligence Integration**; prototyped automation features such as **Email Management Systems for Project Managers** through sites such as **N8N** and **Loveable**

Projects

Interactive Options Pricing Heatmap | Python, Matplotlib/Seaborn, Docker ([Github Repository Link](#))

- Engineered an interactive UI to generate heatmaps of option prices calculated with the **Black-Scholes model**.
- The tool visualizes the value of call and put options, allowing for dynamic user inputs for variables like underlying price, strike price, volatility, risk-free rate, and time to expiration.
- Then containerised into a **Docker Image** to meet industry standards.

Software Engineering Group Project | Advanced Git, Version Control, Junit, Java

- Architected **Junit Test** code developing to identify issues within the initial code base provided to our team
- Achieved **90.3%** coverage across **165 test cases** using custom built Java solutions

XGboost for Time Series Forecasting | Python, Shell, Scikit-Learn, XGBoost ([Github Repository Link](#))

- **Reduced data processing run time by ~98%** by engineering custom backtesting software and **parallelising the data pipeline**.
- Architected an end-to-end forecasting system, improving accuracy and latency by replacing an initial LSTM prototype with an optimised XGBoost model.
- Developed a high-performance feature selection pipeline using **Parallelised Recursive Feature Elimination** to significantly decrease model training time.
- Implemented a hybrid decision-making module using a **Monte Carlo simulation** to translate model predictions into risk-adjusted outputs.