Dylan Fitzsimmons

Software developer · Glasgow

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01 PROFILE

MSc Software Development graduate with a background in engineering and financial economics. Built Opus Equi, a desktop forecasting application with a C#/.NET 8 client over a Python FastAPI service, taking it from requirements through to unit, integration and acceptance testing. As co-founder of Enular, a fintech startup, designed the platform's backtesting engine and published it as a Python package on PyPI. Seeking a graduate software engineering role in financial technology.

02 EDUCATION

MSc Software Development — **Sep 2024 – Dec 2025**

University of Glasgow. Java backend development, Agile methods, software engineering practice. Dissertation: Opus Equi (see Key project).

MSc Financial Economics — **Sep 2018 – Dec 2019**

University of Glasgow. Asset pricing, mathematical and computational finance. C++ (stochastic calculus for options) and MATLAB (nonlinear volatility models).

BEng (Hons) Mechanical and Power Plant Systems Engineering — **Sep 2014 – Jul 2018**

Glasgow Caledonian University. Mechatronics, energy systems, computational methods; MATLAB (PID controller design, thermodynamic simulations). IESIS Best Student Award (top Honours result in cohort).

03 KEY PROJECT

Opus Equi: Financial Time-Series Forecasting Platform — **MSc dissertation, 2025**

`C# / .NET 8 (WPF, MVVM) · Python / FastAPI · XGBoost, scikit-learn, pandas · OxyPlot · pytest, MSTest`

- Designed and built a full-stack desktop application, a C#/.NET 8 WPF client over a Python FastAPI service, exposing 3 typed REST API endpoints that turn raw CSV market data into probabilistic price forecasts.
- Implemented two quantile-based forecasting models (XGBoost with a custom pinball-loss objective, and an approximate Quantile Random Forest) to produce median forecasts with calibrated 5–95% prediction intervals.
- Built a deterministic data pipeline (schema harmonisation, chronological deduplication, timestamped snapshotting) validated against 27 reproducible mock datasets, so every forecast traces back to a persisted model artefact.
- Delivered 22 automated unit tests plus integration and acceptance suites aligned to ISO/IEC/IEEE 29119, achieving 15 of 18 prioritised requirements (all 5 must-haves) against a full requirements traceability matrix.

04 EXPERIENCE

Co-Founder / Software Developer, Enular Limited — **Jun 2021 – Jan 2023**

- Co-founded a Companies House registered fintech startup; prototyped a full-stack trading platform in Python, with UI designed in Figma.
- Designed and published the backtesting engine as an open-source PyPI package (pip install enular): a composable indicator and strategy framework built on Backtrader's Cerebro engine.

A&E Call Handler, NHS 24, Glasgow — **Jan 2023 – present**

Independent, protocol-driven casework in a 24/7 emergency environment, sustained alongside full-time postgraduate study.

05 OTHER PROJECTS

SRC Events Management (team project) — **Django · SQLite · Render**

Event platform for university societies, live at itechproject.onrender.com. Owned backend delivery in a team of 3: framework set-up, security, authentication, database layer, and deployment on Render with ProtonMail Bridge email.

Turn-Based Strategy Game (team project) — **Java · Play Framework · WebSockets**

Designed the core architecture (GameManager, TurnManager, unit and card class hierarchy) and implemented the enemy AI, with WebSocket-driven real-time updates.

06 TECHNICAL SKILLS

Languages	Python, C#, C++, Java, JavaScript, MATLAB, SQL
Frameworks	.NET 8 / WPF, Django, React, FastAPI, XGBoost, scikit-learn, pandas, NumPy, SciPy, statsmodels, OxyPlot
Tools	Git, Render, EViews, Bloomberg Terminal, PowerShell, PostgreSQL, MySQL, Figma