Tom Matson

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EDUCATION

University of Bristol | BSc (Hons) Computer Science *Sept 2024 – June 2027*

- **First-Year Result: 67% (High 2:1)**
- **Key Modules:** Advanced Algorithms & Data Structures, Computer Systems (Go), Software Engineering, Programming Language & Computation, Object-Oriented Programming (Java), Computer Architecture, Imperative & Functional Programming (C, Haskell).

College of Richard Collyer | A-Levels *Sept 2022 - June 2024*

- Mathematics (A*), Further Mathematics (A), Computer Science (A), Physics (A).

EXPERIENCE

Product Security Intern | News UK, London *June 2025*

- Investigated the security implications of AI-generated code, identifying and categorising over **10 potential vulnerability classes** in production environments.
- Presented key findings and strategic mitigation recommendations directly to the **Head of Product Security**.

Software Engineering Intern | Kaluza, Bristol / London *June 2023*

- Developed a custom data pipeline in Python that automated a key data aggregation task, **saving an estimated 144 hours** of senior engineer time annually.

Mentee | Zero Gravity Mentorship Program *Sept 2022 – Present*

- Selected for a competitive national mentorship scheme from a pool of over 8,000 applicants, placing in the **top 19%** of candidates for a place.

PROJECTS

Crest – AI-Powered Revision Platform | Full-Stack Commercial Product *June 2025 - Present*

- Architected and launched a full-stack commercial application, now managing its entire lifecycle including monetisation and feature development based on user feedback.
- Published the app on the Apple App Store, currently managing an open beta with **20+ active users** to gather performance data and guide improvements.
- Maintaining a high-performance, asynchronous RESTful API, which I engineered with FastAPI to reduce exam marking time by **87.5%**.
- Iterating on a responsive and stable React Native frontend, initially built to establish a robust, high-quality user experience.

Hardware-Level DES Block Cipher | Low-Level Systems Design *Nov 2024*

- Scored a top-tier grade of **93%** for constructing the 16-round Data Encryption Standard (DES) algorithm in Verilog at the Register-Transfer Level (RTL).
- Demonstrated mastery of low-level computer architecture, digital logic design, and fundamental cryptographic principles, proving ability to excel in complex systems engineering challenges.

Stochastic Pair Trading Bot | AI & Quantitative Analysis *Mar 2025 - Present*

- Designed an AI-driven trading bot that generated a **23.4% absolute return** over a 9-month backtest by executing a pair trading strategy on cointegrated assets.
- Leveraged a Gradient Boosting classifier for trade signals and a Reinforcement Learning agent for dynamic position sizing and risk management.

Scotland Yard AI Agent | Game Theory & Search Algorithms *Feb 2025 - Mar 2025*

- Earned a First-Class mark of **76%** for designing and implementing an intelligent agent in Java to play Scotland Yard.
- Employed Monte Carlo Tree Search (MCTS) for move decision-making and a custom non-Markovian algorithm to reason about opponent history.

SKILLS, ACHIEVEMENTS & AWARDS

Languages: C++, Python, Java, Go, C, JavaScript, SQL, Verilog

Frameworks & Libraries: FastAPI, React Native, Pandas

Technical Skills & Concepts: Data Structures & Algorithms, AI/ML, Full-Stack Development, Git, Computer Architecture, Network Resilience, Quantitative Analysis, Imperative + Functional + Object-Oriented programming

Achievements: Awarded Best Computer Science & Best Physics Student at GCSE. Achieved a GCSE average of 8.5