George Sharpe

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EDUCATION

University of Exeter | Exeter, UK   **Sep 2022 – Jun 2025**
- BSc Computer Science – 2:1

Sandringham School | St Albans, UK   **Sep 2015 – Jun 2022**
- A Levels – Computer Science (A*), Maths (A*), Further Mathematics (B), Physics (B)

CODING PROJECTS

Automated Clinical Coding Model   **Sep 2024 – Apr 2025**
- Explored integration of official ICD-10 coding guidelines into LLaMA-3 prompt generation
- Designed a binary decision tree framework for interpretable, traceable code predictions
- Developed a scalable, auditable clinical NLP pipeline combining zero-shot LLM reasoning with rule-based logic
- Focused on top 50 most frequent ICD codes with domain-specific preprocessing for proof of concept

Music-Identifier Microservices   **Jan 2025 – Mar 2025**
- Designed and implemented RESTful services for audio track management and recognition using Audd.io API
- Built SQLite-based metadata store and local file system archive for efficient audio data handling
- Developed clean REST interface with comprehensive status code coverage and structured JSON I/O
- Created robust end-to-end tests covering all user flows and failure scenarios to ensure system reliability

Atmospheric Advection Simulation   **Jan 2025 – Mar 2025**
- Implemented 2D advection solver using finite difference method with forward Euler time stepping
- Parallelised core computational loops with OpenMP for improved multi-core performance
- Modeled vertical wind shear with a logarithmic velocity profile to simulate atmospheric boundary layer
- Produced vertically averaged concentration outputs and .dat files for visualisation and analysis

Customer Segmentation for E-commerce   **Sep 2024 – Nov2025**
- Applied K-Means clustering for customer segmentation with optimal k selected via the Elbow method
- Performed data preprocessing including feature selection and scaling for improved model accuracy
- Visualized results using cluster plots and inertia curves to communicate insights effectively

Deep Learning Model for Predicting Credit Card Defaults   **Jan 2024 – Mar 2024**
- Designed a Multi-Layer Perceptron (MLP) to classify credit card transactions as likely to default or not
- Cleaned and preprocessed data to account for class imbalance in dataset
- Leveraged L2 regularisation and batch normalisation to improve performance

Event Management Database Project   **Sep 2023 – Nov 2023**
- Designed and translated ER diagrams into accurate relational schemas with justified entities and constraints
- Developed and executed SQL scripts for table creation, data querying, and updates
- Implemented complex data operations including conditional deletions and availability updates
- Produced clear, well-structured technical documentation

Pairs Game Website   **Jan 2023 – Mar 2023**
- Launched a dynamic web application using the LAMP (Linux, Apache, MySQL, PHP) stack
- Used HTML, CSS, and JavaScript in creating the web application
- Deployed on a Microsoft Azure cloud-based virtual machine

SKILLS AND INTERESTS

- **Coding Languages:** Python, SQL, Java, C#
- **Skills:** Data Preprocessing, Pipeline Design, Database Design, NLP, Git
- **Interests:** Weightlifting, Cooking, Football, Gaming