

# George Sharpe

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## EDUCATION

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- **BSc Computer Science** University of Exeter  
*Achieved a 2:1* 2022-2025
- **A Levels** Sandringham School  
*Computer Science (A\*), Maths (A\*), Further Maths (B) & Physics (B)* 2020-2022

## EXPERIENCE

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- **Computer Science Tutor** St Albans, UK  
*Sandringham School* April 2021 - May 2021
  - Tutored younger students in computer science, using effective communication to explain programming concepts and guide students through coding challenges and debugging.
  - Adapted explanations to different learning styles, helping build their confidence and problem-solving abilities.

## PROJECTS

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- **Automated Clinical Coding:** Python, Pandas, Transformers, Pytorch, Scikit-learn, Git
  - Integrated clinical knowledge into LLaMA-3 prompts using a binary decision tree for ICD code predictions.
  - Built a clinical NLP pipeline by integrating data from three MIMIC subsets for hierarchical diagnosis classification.
  - Identified a clear
- **Music-Identifier Microservices:** Python, REST API, SQL, Audd.IO API, JSON, Git
  - Developed RESTful audio identification services integrating Audd.IO API and SQLite metadata storage.
  - Built clean REST interfaces with full status code coverage and robust end-to-end tests.
- **Atmospheric Advection Simulation:** C, OpenMP, Git
  - Implemented 2D finite difference solver with forward Euler stepping and modelled vertical wind shear.
  - Parallelised core computational loops with OpenMP for multi-core performance; generated output files.
- **Customer Segmentation for E-Commerce:** Python, Pandas, Scikit-learn, Matplotlib, Git
  - Applied K-Means clustering with optimal k via Elbow method; performed feature selection and scaling.
  - Visualised clusters and inertia curves to communicate insights effectively.
- **MLP for Defaulting Credit Cards:** Python, Pandas, Numpy, Keras, Scikit-learn, Matplotlib, Git
  - Designed Multi-Layer Perceptron addressing class imbalance; used L2 regularisation and batch normalisation.
  - Created visualisations to analyse results and ensure model robustness.
- **Event Management Database:** SQL, Git
  - Designed ER diagrams and translated to normalised relational schemas with justified constraints.
  - Executed complex SQL queries including conditional deletions and updates; documented clearly.
- **Pairs Game Website:** SQL, PHP, HTML, CSS, JavaScript, Linux, Apache, Microsoft Azure, Git
  - Built dynamic web app using LAMP stack with frontend in HTML, CSS, and JavaScript.
  - Deployed on Microsoft Azure VM and managed source control with Git.
- **Code-to-Collect Web App:** HTML, CSS, JavaScript, Python, Django, Git
  - Collaborated in a team to develop the web app; resolved Git merge conflicts and coordinated code integration.
  - Built a custom isometric grid system for object layering, collision detection, and movement in JavaScript.

## TECHNICAL SKILLS

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- **Languages:** Python, SQL, Java, C#, C++, C, Linux, JavaScript, HTML, CSS, Bash
- **Developer Tools:** Git, VS Code, Jupyter Notebook, MYSQL Workbench, pgAdmin, MS Azure, Django, REST, Audd.io