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SUMMARY

I am currently a MEng Computer Science student in my penultimate year at Durham University looking for an internship in summer 2024 with graduate job prospects in 2025. I am team oriented with strong interpersonal and communication skills.

EXPERIENCE

Team leader of a software engineering project developing a VR game for IBM - I gained valuable database management experience connecting an enterprise system, IBM Db2, to a Unity project via a flask API. I professionally communicated with a client and adapted to their changing needs using an agile development approach, becoming familiar with the software development life cycle (SDLC).

Project manager for 2nd year students' VR meditation research project - My role includes creating a comprehensive agenda for each meeting, leading a start-of-meeting standup and guiding team discussions to ensure all tasks are efficiently and effectively executed.

Demonstrator for artificial intelligence module - I lead a practical session each week teaching 'SciKit-Learn' to 2nd year students and assist them in debugging code.

PROJECTS

DurHack Nov 2023 – Developed a VR learning tool in Unity, utilising OpenAI's davinci 003 API to generate PowerPoints and scripts. The user chooses any topic and a text-to-speech AI reads the script over a video in VR.

DurHack Feb 2022 - Runner up for property price predictor - Implemented a linear regression in 'SciKit-Learn' trained on a public dataset. The front end was connected via a flask server in Python.

DurHack Nov 2022 - Developed a Bitcoin price visualizer updating in real time using Binance API and web sockets. We emulated a stock market by creating candlestick graphs in Python to track the current price of Bitcoin.

CIFAR-100 deep learning Image classifier and generator – Used PyTorch to implement the EfficientNet V2 CNN architecture for classifying and a DCGAN to generate images. This was done under harsh parameter and epoch constraints to promote careful and creative architecture design.

Recommender system with 100k dataset – Merged a Steam 100k user dataset Steam games info dataset to implement content-based filtering. Performed semantic analysis on game descriptions using a pre-trained deep learning model combined with TF-IDF vectors and used implicit playtime feedback.

Machine learning coursework - Designed classifier for UCI Mushroom dataset using 'SciKit-Learn'. Visualised dataset using UMAP for dimensionality reduction and used VIF to detect multicollinearity and prevent overfitting. Tuned 3 algorithms KNN, RFC and SVC, using the best hyperparameters found from 3-fold cross validation and evaluated performance plotting ROC and PR curves.

Langton's Ant C coursework - Simulated a UTM which obeyed the rules of Langton's Ant in C using the 'ncurses' library to visualise.

SKILLS AND COMPETENCIES

- Python 7 years
  - SciKit-Learn
  - PyTorch
  - Flask
  - Pandas
- IBM Db2
- C/C++
- Unity/C#
- HTML/CSS/JavaScript
- Haskell
- Team collaboration
- Communication skills
- Object Oriented Programming
- Version Control (Git)
- Creativity
- Adaptability

EDUCATION HISTORY

2021 - 2025 – MEng Computer Science undergraduate degree Durham University on track to 2:1

June 2021 – A-Levels (A* Physics, A Mathematics, A Computer Science)

June 2020 – AS Further Mathematics - B

2013 - 2021 – Whitburn CofE Academy (GCSE and A-Levels)

EXTRACURRICULARS

Raised money for the Key Project, a charity empowering and inspiring young people, by completing the Great North Run, the largest half marathon in the world.

Played football for 6 years at Whitburn and Cleadon, winning league cup, county cup, a tournament in Ayr and invited to compete at England's training facility St George's Park.