Jake John Davis

MSci Computer Science (Artificial Intelligence)

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EDUCATION

King's College London, MSci Computer Science (Artificial Intelligence) — September 2020 -

- **Fourth Year**: Currently taking modules on Computer Vision, AI Ethics, Agent Systems, Pattern Recognition, Data Mining and Big Data
- **First Year, Second Year, Third Year**: Achieved a 83, 84, 70 grade average respectively

The Priory School, Hitchin, Hertfordshire — September 2013 - June 2020

- **A-Levels**: A* in Computer Science, A in Maths, A in Geography, A* in EPQ

EXPERIENCE

The Professional Fundraiser; Hitchin, Hertfordshire, Software Engineer — Internship 2017, Employment 2018 - 2020

- Completed an internship in the summer of 2017
- Offered part-time employment in 2018
- Developed and maintained an in-house system used by employees and fundraisers built with React and C# (.NET)

PROJECTS

ByTheWay — *Year 4 Group Project with AWS Impact Accelerator; November* 2023 -
Led a team in the development and design of a solution for Richmond and Wandsworth councils to allow individuals with additional accessibility requirements to provide feedback. Implemented a cross-platform app using React Native, Next.js, Expo with AWS services on backend. The project has garnered significant interest from the council for continued collaboration beyond its initial phase.

"Towards an Intelligent Post-training Mutation Tool for Deep Learning Systems" — *Year 3 Personal Project;* September 2022 - April 2023
A research project with accompanying command line tool into generating mutants of neural networks intelligently for mutation testing using search based repair techniques. Statistically significant mutants were generated >80% of the time.

muze.iq — *Year 2 Undergrad Software Engineering Group Project, Coursework;* January - April 2022
A web application built with React & Django for listening to and discovering music together. I led the development of album recommendations using hybrid matrix factorisation from user ratings and EveryNoiseAtOnce genres, resulting in 'good' recommendations 77% of the time from a user survey.

A Comparison of Text Prediction Techniques — *A Level Computer Science, Coursework*; September 2019 - April 2020
A research project into various text prediction methods, their implementation in Python, and evaluation. Methods implemented included one solely probabilistic method, one method using LSTM layers within Neural Networks to predict the next Parts of Speech (POS) & word vectors, and one method using a combination approach of LSTM layers predicting the next POS filtering the words for probabilistic selection.

What Are the Fundamentals of Machine Learning and How Do They Compare? — *Extended Project Qualification*; September 2018 - April 2019
An exploration into the fundamental algorithms of Machine Learning including the analysis of their applications. Research included supervised & unsupervised learning techniques and different types of neural networks.

SKILLS & INTERESTS

- I am experienced in using Python, JavaScript (TypeScript), C#, C++, Scala, Java, & Rust and I have used C, Go, PHP, MATLAB before
  - I am proficient in using React (Next.js, React Native, Expo), AWS (CDK, S3, Lambda, DynamoDB), Tensorflow/Keras
- Led graphic design on the KCL FashionSoc committee resulting in 4x increased engagement
- Organised and promoted 3 music events in London, taking an active role in event coordination while also being able to showcase my own music and DJ sets