

Jake John Davis

Computer Science (MSci) Undergraduate

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EXPERIENCE

Bismuth, Creator and Software Engineer (bismuth.app) — 2020 -

- Solely created an application aimed to provide business management utilities for companies within the construction sector
- Develop iOS, Android and Web Apps using React Native with a C# .Net Core API
- Published iOS and Android apps to the respective app stores
- Redevelopment starting in 2022 using Go services with Kubernetes & Istio

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

- Selected for 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# with the .NET Framework

EDUCATION

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

- **Third Year:** Currently working on my dissertation "Towards an Intelligent Post-training Mutation Tool for Deep Learning Systems" along with modules on Compilers, AI Planning and AI Decision Making
- **Second Year:** Achieved a 84 grade average in modules Software Engineering Group Project, Introduction to AI, Internet Systems, Operating Systems, Practical Experiences of Programming, Language Design Paradigms, Foundations of Computing II
- **First Year:** Achieved a 83 grade average in modules Programming Practice, Computer Systems, Database Systems, Elementary Logic and Foundations of Computing

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

- **A-Levels:** A* in Computer Science, A in Maths, A in Geography, A* in EPQ
- **GCSEs:** Level 9 in Computer Science, 3 Level 8s, 4 Level 7s, 2 Level 6s

PROJECTS

muze.iq (muzeiq.io) — 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 the album recommendations using hybrid matrix factorisation from user ratings and EveryNoiseAtOnce genres.

Predator-Prey Simulation — Year 1 Undergrad Programming Practice and Applications, Coursework; February - March 2021

A pair-project which included the development of a simulation of actors, animals and plants within an ecosystem, programmed in Java using Java Swing GUI. As an additional task, I developed a Neural Network implementation which was used to calculate the desires of an animal such as move, breed, find food and rest from certain environmental stimuli: life lived, hunger, day passed etc.

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, & PHP and I have used C, Go and Rust before
- I am proficient in using React (Next.js, React Native) & Angular and I love learning new tools
- I like learning about Artificial Intelligence, using Keras/Tensorflow
- I have recently started using the software and technologies Kubernetes, Istio, Skaffold and Protobuf
- I enjoy discovering new music, collecting vinyl and I am learning how to DJ