

# Jake John Davis

Computer Science (BSc) Undergraduate

## PROFILE

Second Year Computer Science (BSc) Undergraduate at King's College London with an interest in Machine Learning and Natural Language Processing.

## EXPERIENCE

### **Bismuth, Creator and Software Engineer - 2020-Present**

- 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
- Manage deployment of the Web App onto dedicated hosts using Docker

### **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 using React and C# with the .NET Framework used by employees and fundraisers

*\* References available upon request*

## EDUCATION

### **King's College London, 1st Year — September 2020 - June 2021**

- |   |  |
|---|--|
| - Database Systems: 100                     | - Introduction to Software Engineering: 76 |
| - Data Structures: 97                       | - Computer Systems: 75                     |
| - Programming Practice and Applications: 90 | - Elementary Logic With Applications: 74   |
|   | - Foundations of Computing 1: 60           |

### **The Priory School, Hitchin, Hertfordshire, A-Levels — September 2018 - June 2020**

- |                        |                |
|------------------------|----------------|
| - Computer Science: A* | - Geography: A |
| - Maths: A             | - EPQ: A*      |

## ACADEMIC PROJECTS

### **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 within Java 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 which included research into supervised and unsupervised learning techniques and different types of neural networks.

**SKILLS**

Programming languages:

- Python (experience from 2015)
- PHP (experience from 2016)
- Visual Basic (experience from 2017)
- Javascript (experience from 2017)
- C# (experience from 2017)
- C (experience from 2019)
- Java (experience from 2020)
- C++ (experience from 2021)
- Scala (experience from 2021)

Frameworks:

- React/React Native (experience from 2018)
- Angular (experience from 2019)
- ASP.NET Core (experience from 2019)
- Keras (experience from 2019)
- Django (experience from 2021)

Other Skills:

- Unix/Linux
- Docker
- MySQL/MSSQL/MongoDB
- Git
- Adobe Photoshop
- Music Production

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