Jack Martin Bunyan

04/12/2001 | jackmartinbunyan@gmail.com | jackmbunyan.github.io

Qualifications:

Mathematics and Computer Science BSc (University of Bristol):

On track for a First-Class degree based on current results. I have tailored my unit choices, and my degree, towards data science and machine learning topics with an element of financial mathematics as well. I have scored particularly well in units such as: machine learning, artificial intelligence, data driven computer science and advanced algorithms. More recently, I have been drawn towards the predictive power of machines and the associated modelling techniques.

A-Levels (William de Ferrers School):
- Computer Science – A*
- Mathematics – A*
- Further Mathematics – A*
- Physics – A*

GCSEs (William de Ferrers School):
- 6 x A** (Grade 9) including Maths, Computer Science and English
- 4 x A (Grade 7) including Electronics and French

Technical Experience:

Python (NumPy, SciPy, matplotlib, PyGame), Java, C, JavaScript (and TypeScript), Haskell, R (RStudio), SQL, Lua, IBM Cloud, MongoDB, REACT, Snowflake, GitHub.

Work Experience:

- **Lead Teaching Assistant, IBM Cloud Specialist, University of Bristol (Oct 2022 – May 2023)**
  Role involved working on the Software Engineering Project unit, giving guidance to the student teams on cloud-based solutions, particularly using the IBM Cloud Kubernetes and Code Engine services and acting as an administrator on our unit's resource groups.

- **Intern, MTa Learning (Jul 2022 – Sep 2022)**
  Worked in a small team to develop a business simulation game designed to encourage and improve team working and critical thinking skills of groups within schools or companies. I was in charge of the design of the underlying financial model used and then its implementation in the final product.

- **Maths Support Teacher, William de Ferrers School (Oct 2020 – Mar 2021)**
  Teaching skills and encouraging participation in students. I was given 3 or 4 students that were too disruptive for a large class of students and thus were on track to fail their maths GCSE, it was a great challenge to overcome and by the end all of my students were predicted to now pass based on preliminary papers.

Unpaid Experience:

- **Sports and Socials Officer, Bristol Computer Science Society (May 2022 – Apr 2023)**
  Led a committee in organising social events to help bring the diverse student community together, across years and cohorts. Ran a range of events including quizzes, bar crawls, BBQs, and the end of year ball.

- **Work shadowing, DTSQUARED, London, UK (Jun 2019)**
  Using Snowflake, a data warehouse software, and learning data governance principles and storage solutions. Following their team into both client and project meetings allowed me a clear insight into all aspects of their company and their role in data management.

- **Coach, Ju-Jitsu Class (Sep 2017 – Present)**
  Alongside working on my 1st Dan, I taught primary and secondary school age children Ju-Jitsu. This involved teaching alongside other coaches across the country at events including regular classes, kyu gradings and international competitions.

Projects:

- **Agent-based Model of Language Evolution**
  Using Python to develop an improvement on an existing iterative-learning model to better understand the emergence of language within a population of agents, employing neural networks and genetic algorithmic concepts to implement this, while decreasing the computational complexity required.

- **Game Jams**
  I have taken part in multiple Game Jams throughout my time at university. Developing two games using PICO-8, a fantasy games console which emulates working on an NES style console with the same memory limitations and colour pallet, and a third using Python and PyGame. Varied success between the games, winning a few small cash prizes along the way.

- **Multi-agent Maze Solving**
  A Prolog program that allowed up to ten agents to solve randomly generated mazes, each with one start and end location, using an A* pathing algorithm and delegation of tasks between agents to increase efficiency and minimise time taken.

- **Business Simulation for MTa Learning**
  Full-stack development on a business simulation game created over six weeks, involving: designing the model financial market used, creating a REST API linking to a MongoDB database, web-based REACT app implementation using TypeScript.

- **Portfolio Website:** jackmbunyan.github.io
  Created a simple website using GitHub Pages to act as a central location for hosting my CV and a dynamic list of projects and experiences that I have been involved with.

- **Video Streaming Web App for the University of Bristol's work with The Grand Appeal**
  Part of a team that developed a video link between two interactive sculptures. Implemented using a Java Spring Boot backend with a REACT app frontend. This was done through the Software Engineering Project unit and meant that we were working directly for the University as if we were our own software development team. I was the project manager, assigning issues and ensuring that deadlines were met. The feedback we received as a team was great and it was an enjoyable experience to simulate being in the working world.

- **Route Finding Application for William de Ferrers School**
  An implementation of bi-directional Dijkstra's algorithm in a Python application to provide a tool for inexperienced staff to search for direct routes between classes.

Skills:

- BJJA Shodan Black Belt
- BJJA Level 1 Coaching Qualification
- Bronze Duke of Edinburgh Award

References: Available upon request.