Joseph Broughton

London

Professional Profile

Full-time student at the University of Bath studying Computer Science and Artificial Intelligence, with proficient understanding and practical experience in Python, PHP, JavaScript, CSS, TypeScript, HTML, C, C++, C#, Shell, Java, Lua and SQL. Experience with implementing agile and test-driven development, and pen-testing. Designed pipelines, architected servers and coordinated integrations. Familiar with productionising tools such as Docker, K8s, AZD, AWS and development + deployment pipelines. Attended a Cyber Security summer course run by GCHQ covering digital forensics and network security. Currently on a 12-month internship in the financial sector.

Core Skills

▪ DevOps	▪ AI and ML	▪ UI and UX	▪ Pen-testing
▪ Software testing	▪ Systems architecture	▪ Web and cloud	▪ Scrum
▪ Efficient use of LLMs in workflow	▪ Investigative & resourceful self-learner	▪ Deliver independently & collaboratively	▪ Problem solving & decision making
▪ Writing technical documentation	▪ Able to adapt to changing priorities & timescales	▪ Logical, analytical & critical thinking	▪ Building positive relationships at all levels
▪ Excellent written & oral communication skills	▪ Planning & delivery	▪ Systems management	▪ Team management & resource distribution

Attitude & Competencies

Logical, resourceful, intuitive, pro-active, motivated, committed, confident and dependable, with an investigative and positive approach. Able to work well both independently and as part of a team, self-manage tasks, working to deadlines and deliver to a high standard.

Projects

- Wrote a market prediction algorithm written in Python utilizing the Pandas library and financial data APIs to model the market against previous shapes and behaviours and predict the performance of a stock.
- Developed collaboratively on "Racing Skylines", a free roam driving game in Roblox working with 3D meshes, car physics, game save files and multiplayer concurrency.
- Created and maintain a popular Factorio mod that adds new features and entities to the game's existing train logistics. This involved sprite design, game balancing and community management.
- Created and maintained a Discord bot used across the world by thousands of people that performs regression, encryption, decryption, basic mathematical operations and solving equations.
- Published "Service Monitor", an open-source toolkit in Python using Matplotlib and Paramiko that enables efficient uptime monitoring and resource management of servers.
- I provide website hosting services on an Apache server and configure SSL with Certbot. This works in partnership with Service Monitor to ensure uptime of each site. I also provide site analytics and evaluations.
- At university, I was the technical coordinator for a group-developed personal informatics solution for collecting and analysing health-related data.

Education

University of Bath: 2022 - present
Studying BSc (Hons) Computer Science and Artificial Intelligence with Placement. Completed first and second year with a First Class.

During Year 1 studied and practiced:

• Fundamental skills in C, Java and Python	• Scrum agile methodology and group work	• Discrete and analytical mathematics
• Relational Algebra, SQL, Normalisation	• Fundamental AI and ML algorithms	• Architectures, operating systems, networking

During Year 2, I studied Advanced Data Structures and Algorithms, Further AI and ML, Visual Computing, Foundations of Computation, and game theory, as well as undertaking an Experimental Systems group project.

Truro & Penwith College, Truro Campus: 2020 - 2022
Achieved four A Levels:

- Mathematics (A*)
- Physics (A*)
- Computer Science (A*)
- Further Mathematics (A)

I gained an A in my Level 3 Extended Project Qualification (EPQ). My artifact was a collection of retro video games, which gave me my first taste of coding, designing, testing, and analysing a software project.

Penrice Academy, St Austell: 2015 - 2020
Nine GCSE's grades 9-7 (six 9s, an 8 and two 7s), BTEC Music Practice (Distinction) and A Level Additional Mathematics (A)

Employment History

I particularly enjoy working with SMEs and start-ups applying existing knowledge as well as developing my entrepreneurial skills and experience.

Developer at Orbis Investments July 2024 - present
Adding value to firm by improving and maintaining processes around market data. Applying my experience to a larger organisation and increasing my financial domain proficiency.

Co-Founder, CTO & Solutions Architect at Moored Solutions Ltd May 2022 – July 2024
Scoping, designing, and executing the development products, writing proposals, research and policies, and managing the development team. Presenting prize-winning and successful funding pitches and attending networking events to promote the product and played a key role in securing the business' first client.

Developer at Estudiamos Ltd April 2023 – July 2024
Heading up new integration and implementation with a large data provider using Firebase and NextUI. Architecting an AI-driven recommendation algorithm for displaying relevant worksheets to users.

Cloud Consultant at edie.one Ltd November 2022 – February 2024
Utilising my broad web skillset to enable personalised and fast web-related services. Leading to an increase in revenue and clientele for the business.

Software Developer at TouchByte Ltd (SALTO Systems SL) February 2022 – October 2023
Standardising workflow, adopting scrum methodology. Contributed to the growth and success of the company that led to its acquisition in May 2023. Working on industrialisation and integration of the product and prototyping a feature for Real Madrid's home stadium access control system.

Maths & Physics Tutor September 2022 - January 2023
Helping students improve understanding and prepare for their IGCSE exams – lesson scheduling and session planning, researching curriculum and past papers - delivering engaging lessons to motivate and create a passion for the subject.

Music Tutor July 2020 - June 2022
Providing drum lessons, including basic principles of drumming, music theory and preparing for exams.

Mechanic's Assistant at Steve Andrews Tyres Ltd, St Austell July 2019 - May 2020
Fitting replacement tyres, brakes and batteries and handing vehicles back to customers while helping with logistics.

Interests & Hobbies

An accomplished drummer and percussionist, having obtained Grade 8 in each discipline with Distinction. Was a percussionist performing at competitions and events from 2016 until starting university where I play drums in a student band. We have recently recorded a studio single. I enjoy building PCs, gaming and going to the gym.

References

Available on request.