Zachary Upstone

Email ◦ GitHub ◦ LinkedIn ◦ Website

Personal Profile

I am a recent graduate with a 1st in Computer Science from the University of Bath. I have experience working in both software development and quality assurance at BSQUARE, an IoT solutions company. From this, I also gained experience working within a team in an agile environment, developing my communication skills. I also have experience working with multiple customer- facing job at McDonald's and a bar, making me into an adaptable and enthusiastic worker who is good at handling people. I am also a team worker having experience working on group projects throughout university.

Professional Experience

Pugpig   London, UK
Product Developer   10/2024 - Present

- Worked on web code adding new features and fixing bugs, including localisation and controllable theming work.
- Worked on native code adding custom SDK's, redesign features and introducing new functionality.
- Worked on backend code including express, managing the theming, localisation and content of 100's of Newspapers/magazines.
- Also worked on miscellaneous tasks such as adding functionality to enable testing procedures or include custom scripts.

Bsquare   Trowbridge, UK
Student Software Developer   07/2022 - 06/2023

- For 6 months I worked in the development team for SquareOne in which I fixed bugs, produced new features (such as an OS updates page and a tour for a product) and tested code during QA sprints.
- For another 6 months I worked in the QA team, in which I wrote automated tests (for API and UI), performed manual tests and managed the delegation of manual testing during the QA sprint.

Education

University of Bath   09/2020 - 07/2024
Computer Science BSc - First Class Honours - Overall grade – 74.51%
Units including:

- **Final year project (Dissertation)** - 71% - titled "Human Involvement Can Improve Current Image Synthesis Methods within the Domain of Art" explored using human feedback to improve current AI image generation techniques in a manner similar to ChatGPT, this was implemented in Python.
- **Logic and semantics of programming languages** - 81% - I studied how category theory relates to the underlying logic of programming languages, including the lambda calculus and closed cartesian categories.
- **Entrepreneurship** - 72% - Working as a team we started a company and developed a business plan selling services within a student community.
- **Graphs and Networks: Theory and Applications** - 73% - I studied a Maths modules based around graph theory.
- **Reinforcement learning** - 71% - Working as a group, we implemented DQN, RAINBOW and PPO in Python to solve the lunar lander environment in OpenAI's gym.

- **Advanced graphics processing** - 89% - From scratch I developed a ray tracer in C++, implementing reflection, refraction and other lighting effects, to create a realistic generated image.
- **Safety-critical systems** - 79% - I studied case studies of system's shortcomings in relation to safety in the past and how to mitigate or prevent such problems in the future.

Chesham Grammar School   09/2013 - 06/2020
A level: Further Mathematics (A), Mathematics (A*), Computer Science (A), Physics (A).
GCSE's: 4 grades 9's, 2 grade 8's, 3 grades 6's, 1 grade 5, 1 grade A

TECHNICAL SKILLS

- Experience with Vue, Swift, SwiftUI and PHP from Pugpig
- Experience with Angular, Selenium, and Gherkin from Bsquare
- Experience working in an agile environment and using Jira
- Experience with C++ and Java from my degree
- Experience with Python, Pytorch and Reinforcement learning techniques from my degree
- Experience with C and React from personal projects and hackathons
- Full UK driver's license

PERSONAL PROJECTS

- **Snowstorm** - Created snow animations in a range of programming languages(Assembly, C, D, C++, Rust) as an exploration into graphics manipulation.
- **Chrome Context Control** - Created a Chrome extension that allows user's more control over the right-click menu.
- **Traffic Simulator** - Created a graphical traffic simulation in C, where rates of new cars arriving and how many are let through can be controlled.
- **Spotify Roulette** - Created a web game in React, utilising the Spotify API, where users have to guess who a song belongs to out of a group of friends.

ACHIEVMENTS

- Volunteered at WorkAid for 18 months
- Gold DofE
- Competed in BathHack 2021 and 2024 using React both times producing web games.

REFERENCES

Alan Hayes   **Hannah Stainer**
Personal tutor at the University   Operations manager at BSQUARE
AH347@bath.ac.uk   HannahS@bsquare.com