

Charlie Britton

Computer science graduate and software engineer (Online Sample)

I am a graduate of the University of Southampton with a specialisation in cyber security. Throughout my course, I have developed an interest in low-level computing, networking, and IoT. Outside my studies, I run an IT consultancy business, focusing on backend software and infrastructure management.

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EDUCATION

MEng Computer Science with Cyber Security

🏛️ University of Southampton 📅 2020 – 2024

- With first class honours, 69.8% average
- Thesis: fuzz testing using neural networks to perform gradient descent. Implemented in Rust to interface with LibAFL and PyTorch libraries.
- Fourth year group project: reverse engineering DJI drone firmware and radio communications to jam with custom hardware and software. Main contributions: hardware disassembly, reverse engineering using Ghidra, and project management.
- Accredited by NCSC and BCS, with key modules in penetration testing and reverse engineering.

GCSEs & A-Levels

🏛️ Bishop Wordsworth's Grammar School for Boys

📅 2013 – 2020 📍 Salisbury

- A-Level
 - Chemistry – A
 - Mathematics – A
 - Physics – A
- AS-Level
 - Further Mathematics – C
- GCSE
 - Biology – 8
 - Chemistry – 8
 - Design Technology – B
 - English Language – 6
 - English Literature – 4
 - French – 7
 - Geography – 7
 - Mathematics – 8
 - Physics – 8
 - Religious Studies (Short Course) – 7
 - Level Two Certificate
 - Further Mathematics – A

EXPERIENCE

Project Supervisor

🏛️ University of Southampton 📅 2024

- Supervision of two groups of second year students, acting as a client. Second examiner for two other groups.
- Ensuring teams followed Agile and Scrum best practices to deliver their application on-time.
- Advising on feature priority, security best practices, test driven development, code reviews and overall structure.

Laboratory Demonstrator

🏛️ University of Southampton 📅 2024

- Guidance to first year students learning Java and C.
- Unpredictable role, requiring depth of knowledge in many programming aspects to effectively address questions.
- One-on-one interactions, posing carefully considered questions to aid greater understanding of the problem.

Freelance IT Consultant

🏢 Chza Ltd. 📅 2020 – present

- Administration of 70+ virtual Linux servers. Provisioning, security, backups, and monitoring. Technologies: Ansible, Kubernetes, Prometheus, Grafana.
- Application design and maintenance, code review, and documentation of internal and public facing tools. Maintenance and migration of legacy code bases. Technologies: Golang, Python, Git, Node.js.

Kitchen Porter

🏠 White Hart Hotel 📅 2019 – 2020 📍 Salisbury

- Working to strict deadlines in a large team
- Rigorously following cleaning procedures
- Being flexible to help chefs when needed
- Working in a professional environment

SKILLS

Programming Languages

Java, Go, Python, Node.js, Bash, Haskell, C++, C, PHP.

Software Engineering

Agile, Git, code review, SDLC, threat modelling, scaling, multithreading, distributed systems, debuggers, profiling, reverse engineering, CI/CD.

Infrastructure Management & Monitoring

Linux, Docker, Kubernetes, Ansible, Prometheus, Grafana, Apache.

Soft Skills

Problem solving, technical writing, team work, public speaking, leadership, organisation/planning, time management, working to a deadline.

PERSONAL STATEMENT

In my free time, I like to play the guitar, cook, and go out and about in my camper van. I'm also learning all about the world of amateur radio, currently working towards my foundation licence, so I can establish contact with like-minded people whilst deepening my understanding of RF circuits and electronics in general. I'm also a member of the Southampton University Ballroom and Latin Dance Society, where I competed as a beginner last year; and I crew for a racing team several times a year at Santa Pod Raceway. I also enjoy building small electronics devices to automate my house.

Online Sample – please email charlie@chza.me for the latest version.

ACTIVITIES AND PROJECTS

Amateur Radio 2024

Attained my foundation amateur radio licence July 2024, . Looking to build my own radio equipment and upgrade to the intermediate licence as a next step.

MCU Projects & PCB Design 2020 – present

Combining off-the-shelf components on breadboards to produce prototype devices, before designing and fabricating PCBs to combine these into a final product. Software in MicroPython and C. Examples: fridge temperature monitor, LTE and LoRa-based van tracker.

Advent of Code 2022 – present

Taking part in some of the advent of code challenges released each December, normally trying to solve them in a different language each year.

Racing Crew 2021 – present

Crewing for a race team in Super Pro ET at Santa Pod Raceway, preparing for runs, fixing mechanical issues, and wiring electronics systems into cars.

Homelab 2020 – present

Small Raspberry Pi cluster running Home Assistant, router, networked storage, and other services for testing networking technologies, such as network booting and Kubernetes.

CSLib 2020 – 2024

Managed student-run VMWare cluster of old University servers including compute and storage. Physical access and maintenance of hosts and VM access.

Charity Work in Belarus 2019

Running activities for Belarusian children to help them learn English.

Radio Streams Monitoring Website 2019 – 2020

Automated radio silence detection and notification service comprising a self-registration frontend, and continuous monitoring backend. Retired project due to lack of use.

Hackpompey 2019

Making a Radio Directory service, using VueJS, Express, and MongoDB to store profiles.

National Citizen Service 2018

Project leader, managing a team and delivering presentations and videos for charity project.

Website and Blog 2017 – present

Experimenting with different CMS engines and frameworks to build a personal website. Blog posts on a range of topics, mainly focusing on IT-related projects. Open archive of my notes from various university modules, providing access to future cohorts.

Rowing 2017 – 2019

Rowing at J16 level for the Southampton Amateur Rowing Club, competing in J16 quad (4x+), novice men's four (4+), and J16 sculling (1x).

Bronze DofE 2017

Undertaking three months of sport, volunteering, and skill building in addition to an expedition. I continued both the volunteering and sport once the requirements had been satisfied as they were both enjoyable.

Volunteering at Cub Scouts 2016 – 2017

Leadership and team building experience with children, organising activities and games as well as conflict resolution.

Scouting 2009 – 2014

Attained Chief Scout's Bronze and Gold awards for completing badges pertaining to a wide range of skills, such as first aid, expedition and team leadership. Very useful for working within teams, giving back to the community and outdoor skills.

References and portfolio are available upon request.

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