Sam Robert Whitehead
https://github.com/Ytrewq13

Tel: (+86)136-1280-8157   Email: SWhitehead1999@outlook.com

Currently in China, seeking a software role to move back to the UK.

As a Software Engineer at a small quantitative trading firm in Shenzhen, I am constantly exposed to a wide range of technologies and new challenges. My growing expertise includes *system administration, tooling development, and Linux internals*. Outside of work, I have *extensive experience with Linux*, which has enhanced my working efficiency.

Education

University of Nottingham   2018-09 -- 2022-07

Degree: **Master of Science** in Computer Science   First class honours (4.0 GPA)

- *Algorithms and data structures* in C, Java, C++, Python, and Haskell.
- Functional Programming and OOP.
- *Compiler design* and implementation.
- *Information Visualization*, Data modeling and Analysis.
- Dissertation: *Operating System development* -- ARM CPU modes and register setup, Graphics driver, System calls, File systems.

Work Experience

Software Engineer - CapitalAdd/铭珈资本 (Shenzhen)   2023-06 -- present

- Prepared and used *automated installation* and configuration for Ubuntu servers, including using the Ubuntu server autoinstaller and *Ansible playbooks*. Learned how to streamline server deployment and configuration through *automation*.
- Wrote various user-friendly and *high-performance tools* in Python and C++, Improving my skills in software development principles.
- Researched and prepared for installation of a *distributed network storage solution* using BeeGFS. Planned server *hardware* and tested various network layouts, gaining knowledge on scalable storage solutions and network architecture. *Took ownership* of the project and *worked independently*.
- Deployed an open-source web UI for OpenAI API using *docker-compose for orchestration*, allowing our office to access AI assistants, bypassing the GFW by using an intermediate VPS as a proxy. Taught myself Docker, *reverse-proxy*, and *FastAPI* for extending the available technologies.

English Teacher - HouHai English (Shenzhen)   2022-12 -- 2023-05

Prepared and delivered lessons to classes of up to 10 students between 5-11 years old. *Developed innovative teaching methods* to engage young learners, including interactive games and competitive activities. Observed and assessed students' progress, providing *constructive feedback* to enhance their learning experience. Learned to adapt lessons to meet the diverse needs of individual students, fostering an inclusive classroom environment. Greatly improved my *communication skills* and self-confidence, gaining *public speaking and presentation* experience.

Projects

- Mandelbrot generator in C -- *Libpng* for storing images, complex arithmetic and *multithreading* in C.
- Maze generator and solver in Java and Javascript -- *Optimisation* of Javascript rendering code, A* search algorithm.
- Major *contributor* to nsxiv (Revival of image viewer sxiv) -- Implemented loading for animated WebP images.

Additional experience

Software Engineering Group project -- designated "gitmaster"   2019-09 -- 2020-06

- Organised the *git* repository for the project's source code - Advanced *version control*.
- Managed the ideas of a *diverse group* of people to create a cohesive software solution to an *industry challenge*.

Programming Languages

C, C++, sh/bash, LaTeX, Python, sed/AWK, Javascript, R, Groff (ms/man), SQL/NoSQL, Haskell, Perl, Java, Lua, PHP, C#, ...

Technologies

Ansible, Vim, GNU/Linux, Make, Systemd, Git/svn, SSH, Docker[-compose], REST APIs (FastAPI/Express.js), GDB, Clang/LLVM, Proxmox VE, CMake, ARM architectures, QEMU/KVM, ZFS, Email (postfix, dovecot, OpenDKIM), ...