

Sam Robert Whitehead

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As a Software Engineer with accumulating professional experience at a small but agile quantitative trading firm in Shenzhen, I am enthusiastic about bringing my evolving skills in system administration, automation, tooling development, and Linux operating system internals to a challenging role in the UK. My extensive practical exposure with Linux systems has been pivotal in driving efficiency within a resourceful, high-pressure environment. As I continue to gain experience over the coming months, I look forward to returning home to contribute my unique blend of expertise to innovative UK tech companies striving to enhance their operations through cutting-edge technologies.

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.
- Robotics programming.
- *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

- Preparation and usage of automated installation and configuration for Ubuntu servers including Ubuntu server autoinstaller and Ansible playbooks. Focus on low-latency optimisation of kernel parameters.
- Writing various user-friendly and high-performance tools in Python and C++.
- Researching and preparation for installation of a clustered network storage solution using BeeGFS, including planning server hardware and testing various network layouts.

English Teacher - HouHai English (Shenzhen)

2022-12 -- 2023-05

Preparing and delivering lessons to classes of up to 10 students between 5-11 years old. Wrote feedback on students' performance to evaluate their progression.

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, L^AT_EX, Groff (ms/man), sed/AWK, R, Python, VimL, Javascript, Haskell, Perl, SQL, Java, Lua, PHP, C#, ...

Technologies

Ansible, Vim, Make, GNU/Linux + Systemd, Git/svn, SSH, GDB, Clang/LLVM, Proxmox VE, CMake, ARM architectures, QEMU/KVM, ZFS, Email (postfix, dovecot, OpenDKIM), ...