

Sam Robert Whitehead

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A recent graduate with a Masters degree in Computer Science, living in Shenzhen as an English teacher. Seeking employment in a software development role. Interested in all aspects of software development, with a particular interest in system administration and operating system design.

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.
- Object Oriented Programming (OOP).
- Functional Programming.
- *Compiler design* and implementation.
- Robotics programming.
- *Information Visualization*, Data modeling and Analysis.
- Dissertation: *Operating System development*.
 - ARM CPU modes and register setup
 - Simple graphics driver
 - System call architecture
 - File system implementation

Work Experience

English Teacher - HouHai English (Shenzhen)

2022-12 – present

- Preparing and delivering lessons to students between 5-11 years old.
- Teaching classes of up to 10 students both online and offline.
- Writing feedback on students' performance after lessons to accurately portray how learners are progressing.

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, learned Google's WebP API and *sxiv*'s pre-existing codebase to solve a real-world problem with an *open-source software project*, performed ongoing maintenance by fixing bugs and reviewing Pull Requests.

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, sh, Bash, Haskell, Python, L^AT_EX, R (ggplot2), AWK, SED, VimL, Groff, C++, Perl, SQL, Javascript, Java, Lua, PHP, C#, Agda, Coq, ...

Technologies

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