Sam Robert Whitehead

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Currently in my fourth year studying Computer Science at the University of Nottingham. Interested in all aspects of software development, with particular interest in system administration and operating system design.

Education

University of Nottingham   2018-09 − current

Degree: MSci Computer Science   Average grade: 76% (4.0 GPA equivalent)

- *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* (in progress).
    - ARM CPU modes and register setup
    - Memory Mapped IO code in C
    - Simple graphics driver
    - System call architecture
    - Process control logic and data structures
    - File system implementation

NEW College Pontefract   2016-09 − 2018-07

A-levels: Achieved 3 A-Levels, with grades A*AA.

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, Bash, Haskell, Python, LaTeX, 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), …