Ben Kyd

Software Engineer
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Student at The University of Portsmouth
Expected First-Class Honours

I am **a hardworking, level-headed, organised** and methodical person who enjoys learning new skills and challenges. My commitment to programming springs from a genuine interest and enjoyment derived from figuring out how all things work. I am a **self-motivated** programmer, with experience in a lot of languages, particularly favouring C++. My skills have been developed and refined not only through my degree course but through the increasingly complex projects I undertake. I am equally comfortable and technically capable of **working independently but also within a team**.

Education

2020 - 2024 (University of Portsmouth) BSc (Hons) Software Engineering
- After achieving a first-class weighted average in my first year I am well on track to achieve a first-class honours degree overall. This year I'm doing modules specialising in cyber security and general software development.

2013 - 2020 (Sutton Valence School, Maidstone, Kent)
- A-Levels in ICT (A), Physics (E), Media Studies (B) and an EPQ in Computer Science (A*)
- GCSE's in 10 subjects including Maths, English, Sciences and ICT
- Took part in the theatrical productions of 7 plays, musicals and performances, in charge of the technical side of lighting and sound production.
- Duke of Edinburgh (DofE) Bronze Award

Relevant Development / Employment Experience

University of Portsmouth - Engineer for Formula Student E
(OCTOBER 2021 - PRESENT)

- Working in a team of over 60
- Contributing to low voltage control systems and diagnostics
- Completing relevant training in Electronics, CAD, Software and Mechanics

Key Skills Used:

- Electronics development
- Embedded systems development
- C/C++

University of Portsmouth - Research Assistant for 'NEANIAS'
(AUGUST 2021 - PRESENT)

- Working closely in a large team for a consortium of organisations
- Providing and maintaining cloud services to scientists using Kubernetes
- Expand upon current deployment using JupyterHub
- Tools maintained include rendering engines for astronomical bodies.

- Kubernetes
- Linux administration
- JupyterHub
- Python
- C++

University of Portsmouth - Research Assistant for 'iArsenic'
(MARCH 2021 - AUGUST 2021)

- Hired to write JavaScript for my course leader at university
- Using data to gain an understanding of arsenic pollution in Bangladesh
- Contributing to and maintaining an already large codebase
- Data modelling of data sets larger than 1 Million points
- Worked on front and back end JavaScript work as well as UX design
- Managed and reviewed pull requests from interns working alongside

- NodeJS
- Web JS / HTML
- Git and GitHub
- GitHub pull requests and issue tracking
- GitHub CI

Reborn Roleplay - Mod Developer
(FEB 2019 - JULY 2019)

- Took a break from the online game to give back to the community
- Found the most enjoyment in developing with the scripting tool, SQF
- Worked as a team player taking direction from the JIRA
- Provided a fun and constantly changing experience for players

- SQF (ArmA's scripting language)
- SQL database management
- Agile teamwork with JIRA
- Jenkins CI

AIMPaaS New York & Bloomberg London
(JULY 2018 & 2019)

- For both work experiences, I learned a lot of lessons including;
- The importance of programming in the business field
- How marketing is used from a technical aspect

- Listening skills
- C++

Personal Projects

A very large part of my portfolio, experience and time spent programming is from my personal endeavours and passion projects, all of my public projects can be found on my GitHub portfolio at github.com/benkyd or my website benkyd.co.uk
A small selection of my most notable projects are listed below;

'Aeon' & 'Inferno' - Game Engine & Path Traced Render Engine
- Work-in-progress game engine written entirely in C++ with OpenGL, GLM & SDL2
- Worked with active game developers in the industry for help implementing and improving my code
- Developed lots of skills pertaining to how rendering pipelines function and how to prototype effectively

'Website Framework' - JS Framework for Server-side Microservices
- Written in NodeJS
- Allows 'modules' to register themselves as microservices for a specific set of endpoints
- Utilised ExpressJS and Authentication libraries such as OAuth
- Developed websites with it using ReactJS

'OwOS' - x86 Operating System
- Barebones microkernel written in C++
- Used to expand knowledge on operating system function
- Networked with Linux maintainers and industry professionals to concrete implementations

'Pico-VGA' - VGA Driver for Pi Pico
- A mix of hardware design using KiCad and firmware programming in C
- Outsourced PCB fabrication for iterative development
- Utilises the Raspberry Pi Pico to display a VGA Signal using Programmable I/O

Employment Experience

'Kitchen', Barista (JUNE 2021 - AUGUST 2021)
- Working as part of a team of 7 staff to serve customers in a busy town centre coffee shop
- Creating customised coffee drinks to order, meeting company standards
- Talking to customers and dealing with any queries/complaints accordingly
- Understanding of health and safety and food hygiene as well as COVID-19 health regulation

Extra Relevant Skills

The following technical skills this list can be reinforced and demonstrated by my GitHub

- Willingness and desire to learn more about interesting technologies
- Experience familiarising with and quickly adapting to large codebases
- Knowledge of programming languages including C++, C, ASM, C#, Java, JavaScript, Python, LUA and Bash
- Database query languages such as SQL for MySQL and PostgresSQL as well as NoSQL solutions like MongoDB
- Build toolchains such as CMake, Make, Premake, Ninja & Visual studio
- Management and deployment of Kubernetes clusters with Helm, Docker and JupyterHub
- Management of several commercial web servers such as Nginx and Apache
- Valid UK Drivers license and access to own car

Extra-Curricular Interests at University
- Member of the IT society
- Member of the Formula Student Electric Team
- Member of the Google Developers Student Club for my university
- Member of the Energy & Electronics society

Personal Interests
- ★ PADI Open Water Diving
- ★ Photography
- ★ Cooking

References available on request