

Yaqin Hasan

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Southampton, UK

A 20 year old recent computer science graduate with solid software engineering skills backed by a deep understanding of hardware architectures.

Looking for a technically challenging role where I can swiftly learn new skills and develop professional experience.

Currently on a Graduate Visa with full right to work in the UK until 2026.

Education

University of Southampton (2020 - 2023)

BSc Computer Science (Honours) - Second Class

- **Specialist Modules:** Advanced Computer Architecture & Systems, Real-time Computing & Embedded Systems (RTOS), Programming Language Concepts (compiler theory), Web Architecture & Hypertext Technologies (REST APIs)
- **Final Year Project:** *"An Intelligent Approach to Navigating Environments With Compliant Obstacles"*

University of Southampton, Malaysia Campus (2019 - 2020)

*Engineering Foundation Year - 83% year average (equiv. to A*A*A* A-levels)*

- **Modules:** Mathematics (equiv. to A-level Maths & Further Maths), Electronics & Electrical Engineering, Mechanics.

IGCSE 7 A*s (2019)

- **Subjects:** Maths, English, Physics, Chemistry, Biology, Information Technology, History

Projects

- **ThymPi - Final Year Project (2023)** : Researched, designed and implemented a prototype autonomous navigation robot as a platform to demonstrate the concept of intelligently using internal sensor data to add physical context to an otherwise purely visual navigation system.
Skills: Python, OpenCV, Machine Vision, Thymio, Robotics, Autonomous Navigation, Sensors, Raspberry Pi
- **yaqinhasan.com - Personal Portfolio Website (2024-Present):** Developed and self-hosted my own personal portfolio website from scratch. Challenging myself not to use frameworks, templates or managed hosting to develop a deeper understanding of the underlying technologies.
Skills: Web Development, Responsive, HTML, CSS, JavaScript, Web Hosting, VPS, DNS, AWS
- **flopPy - A Pure Python Stateful GUI Framework (2024-Present):** Developed my own portable, lightweight, stateful Python GUI framework, inspired by Google's Flutter framework. This project also led to/required the development of submodules such as a pseudo-static type system and a lightweight state management library.
Skills: Python, Flutter, GUI, Frameworks, Libraries, stdlib, Tk, Tkinter, PyPI
- **AGILE Software Engineering Group Project (2022):** Worked in a group of 6 developers to design, implement and test a Java/JavaFX application using AGILE project management principles to meet continuously evolving customer requirements.
Skills: AGILE, UML, Git, GitHub, MVC, Java, JavaFX

- **Structured Turtle Querying Language (2022):** Designed a structured querying language for RDF files, based on SQL concepts, and implemented an interpreter for it using Haskell, Alex and Happy.

Skills: Interpreter, Compiler, Haskell, C, Lex, Yacc, Parser, Lexer, SQL, RDF, Turtle

Skills

- **Multi-paradigm, language-agnostic programming**
 - Object-oriented programming in **Java**, **Python** and **C++**.
 - Systems programming with **C** (primarily for microcontrollers and embedded systems).
 - Functional programming in **Haskell**.
 - Scripting and process automation with **Bash** (Unix/Linux) and **Batch** (Windows).
 - **Full stack web development**
 - Front-end with **HTML**, responsive **CSS**, plain **JavaScript**.
 - Back-end and hosting with **Apache**, **MySQL**, **Linux**, **AWS**.
 - **Desktop/Web/Mobile app development**
 - (*desktop*) **Tk/Tkinter** and **Qt/PyQt** frameworks with **Python**.
 - (*desktop*) **JavaFX** framework with **Java**.
 - (*multi-platform/web/mobile*) Google's **Flutter** framework with **Dart**.
 - (*multi-platform/web*) **React** JavaScript Framework and **React Native** with **JavaScript** and **TypeScript**.
 - Developing in and for both **Unix/Linux** environments such as **Ubuntu**, **Debian** and **MacOS** as well as **Windows**.
 - **Test-driven development** experience including writing **unit** tests and **functional** tests.
 - Proficient with **Git** and **GitHub/GitLab** version control workflows, including **shared/collaborative** workflows.
 - Standard software build tools such as **Cmake**, **Maven** and **Gradle**.
 - Virtualization with **VMware** Workstation/Fusion and **VirtualBox**.
 - Cloud server hosting with **AWS** & **OVH**, as well as "**HomeLab**" home servers.
 - **Single board computer** (Raspberry Pi, Jetson Nano) and **microcontroller** (PI pico, Arduino) electronics and robotics.
 - **Microsoft Office** suite, remote collaboration with **Teams**, advanced **Excel** (formulas and programming), **Access** databases and **Visual Basic** forms.
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Personal Interests

- Co-founded Southampton University's Powerlifting Club/Society
- Competing in powerlifting at the national level
- Modding video games and map/level design
- Building custom enthusiast PCs