**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-endand 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.

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