

Bilal Ahmed Masood

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Education

BEng (Hons) Mechanical Engineering

Manchester Metropolitan University

September 2023 - June 2026

Experience

Drovi - Startup

June 2025 – October 2025

Full Stack Software Engineer | TypeScript/JavaScript, React, Next.js, Git, GitHub

Manchester

- Worked closely with CEO to implement various features such as chatbots utilising the OpenAI API
- Rewrote and re-factored Convex back-end and database in TypeScript/JavaScript, increasing clarity and readability
- Enhanced user experience by redesigning application flow, utilising React and Next.js (TypeScript, HTML, CSS), resulting in smoother navigation and improved engagement
- Worked in a small team, allocating and identifying important tasks for completion and collaborating using Git and GitHub

Projects & Other Experience

Docker Development Environment | Docker, Bash

- Built a custom Docker-based development environment with a reusable Dockerfile configuration and Bash automation for reproducible local workflows.
- Created a bash CLI utility that automates provisioning development containers with configurable names and host port mappings using `docker run` and provides access with `docker exec`

IT Experience | Windows, Linux, MacOS

- Using and maintaining multiple machines (including laptops) across a variety of operating systems including Debian (Pop!_OS, Ubuntu) and Arch (Arch, EndeavourOS) based Linux distributions as well as Windows and MacOS machines.
- Experience using the CLI to interface with systems: installing and updating packages, configuring SSH for remote access into machines, basic port management (opening and closing ports) using firewall managers such as `firewalld` and `ufw`
- Experience across the MS Office suite - including preparing technical documentation, presentations and working with spreadsheets

HTTP Server In C | C

- Read the original RFC for HTTP/1.0 translating technical documentation into actionable tasks
- Writing a toy HTTP server & client in C, implementing basic functionality of the protocol

Individual Research Project: Design of a tiltable rotary UAV propeller module | SOLIDWORKS, Python, C/C++, ESP32

- Conducted literature review of current approaches and designs
- Designed and manufactured a unique two axis tiltable rotary UAV module
- Used iterative design through 3D printing to experiment with various design choices
- Designed and implemented the electronics system for the module using the ESP32 MCU

University Project: Respiratory Breathing Device | Arduino, React Native

- Lead the team - organising and assigning tasks to ensure project deadlines were met.
- Developed a mobile application to display and track data collected from sensors using React Native.
- Designed and prototyped Arduino and sensor system, with BLE functionality to collect readings.
- Presented to healthcare professionals, implementing improvements and suggestions.

Courses & Certifications

Python Course | LinkedIn Learning

- During this course I learnt the fundamentals of Python such as loops, classes, functions and data types as well as file handling.

Data Analysis In Excel Course | LinkedIn Learning

- During this course I learnt the fundamentals of Excel ranging from inputting data Excel to calculating averages and carrying out hypothesis tests with data.