

# Anzer Khan

Software Engineer | Huddersfield, United Kingdom

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## Professional Summary

Software Engineer specialising in Machine Learning, backend development and cloud infrastructure. Experienced in building scalable machine learning pipelines, developing backend APIs with Python frameworks, and deploying full-stack applications on cloud platforms. Proven track record of delivering real-world engineering projects, including developing accessibility auditing solutions at AUDITSU and leading software development for the University's first aerospace student team participating in the UKSEDS Olympus Rover Trials. Skilled in Linux-based system operations, mobile automation, and full-stack system design, with a passion for building reliable, intelligent, and impactful software solutions. Experienced in taking ownership of full engineering pipelines, from problem research to scalable cloud deployment.

## Core Skills

- **Backend Development** – Skilled in Python backend systems using FastAPI, Django, and Flask, with experience in scalable API design, auth flows, and integration with PostgreSQL
- **System Design** – Design modular backend systems with clean separation of concerns, service decomposition and database schema design
- **Machine Learning & AI** – Develop and deploy models using scikit-learn, PyTorch, and Tensor, LLM integration via GPT and LLaVA.
- **Computer Vision** – Applied CNNs and vision-language models (e.g., LLaVA) in pipelines for medical image segmentation and QR detection in robotics.
- **DevOps & Deployment** – Automate CI/CD pipelines and deployment with Docker on Azure and Digital Ocean
- **Cloud & Linux Ops** – Manage Ubuntu servers, write bash scripts, and handle deployments over SSH

## Professional Experience

### Software Engineer

AUDITSU (formerly IMAGINaiTION) | Jun 2024 – May 2025

- Originated the platform as part of MY MSc project, transforming academic research into a real-world system for automated accessibility auditing of Android application
- Led development of the initial proof-of-value prototype, which directly contributed to securing early-stage funding from the Royal Academy of Engineering and the UK Government.
- Joined the founding team as a core engineering hire, working closely with the CTO to define technical architecture, development strategy, and product direction during the company's formative stages.
- Designed and implemented dynamic traversal and runtime metadata extraction algorithms using Appium, ADB, and headless Android emulators, enabling large-scale accessibility compliance testing.
- Built scalable backend APIs with FastAPI and Python, integrated with cloud storage (DigitalOcean Spaces), and deployed machine learning pipelines for intelligent accessibility insights.
- Developed solutions aligned with international accessibility standards, including EN 301 549, WCAG, and the European Accessibility Act (EAA).
- Engaged directly with stakeholders to understand auditing needs, inform feature development, and ensure real-world applicability of AI-driven solutions.
- Contributed to AUDITSU's early success, including nomination for AI Startup of the Year 2025

### Software Lead (Volunteer)

Team Ray, University of Huddersfield | May 2024 – Present

- Founding committee member and currently leading the embedded and software systems development for the university's first aerospace society, selected among the top 8 UK teams for the UKSEDS Olympus Rover Trials 2025.
- Securing initial industry sponsorship from Woodcock & Wilson, a Huddersfield-based manufacturing firm, and contributing to the team's successful Critical Design Review (CDR) approval in April 2025.
- Designing rover navigation algorithms, wireless telemetry systems, and real-time data processing pipelines for Mars-like terrain traversal.
- Designed embedded data pipelines for real-time QR recognition and telemetry transmission, forming the backbone of the rover's perception and reporting system.
- Developed a full-stack promotional site using React (Vite + Tailwind) and Django REST API, with media hosted on Cloudinary CDN and deployed via Cloudflare + Railway, significantly increasing visibility within the university and student engineering networks.

### **Web & VLE Assistant (Placement Year)**

University of Huddersfield | Jul 2021 – Jul 2022

- Maintained and updated university web portals using HTML, CSS, JavaScript, and Bootstrap.
- Developed interactive web elements to enhance user engagement and navigation experience.
- Developed user documentation and provided technical support during the shift to online learning environments.

## **Education**

### **MSc Artificial Intelligence – Distinction**

University of Huddersfield | Jan 2024 – Jan 2025

### **BSc (Hons) Software Engineering – First Class Honours**

University of Huddersfield | Sept 2019 – Jul 2023

## **Key Projects**

### **AUDITSU – Automated Accessibility Auditing Platform**

Technologies: Python, FastAPI, Appium, ADB, Bash, DigitalOcean, LLaVA

- Designed and deployed a fully automated accessibility auditing system for Android apps.
- Engineered a dynamic UI traversal engine and metadata audit pipeline for WCAG/EN 301 549 compliance.
- Integrated LLaVA for alt-text generation using visual context.
- Platform scaled to cloud-hosted Ubuntu servers with CI/CD and bash scripting.
- Transitioned from MSc project to UK-funded startup (AI Startup of the Year finalist 2025).

### **UKSEDS Olympus Rover Trials 2025 – Rover Vision System (Team Ray)**

Technologies: Python, OpenCV, Pyzbar, Streamlit, YOLOv5, LLaVA

- Developed a containerized Streamlit app for QR code detection, annotation, and structured JSON reporting as a test component of the vision pipeline
- Planning integration of deep learning-based object recognition models (e.g., YOLOv5) for landmark identification
- Developing a pipeline using LLMs (e.g., LLaVA) to auto-generate rover submission reports based on detection and scanning of the smallest visible QR codes.