

HUZAIR IQBAL

Computer & Internet Engineering Student | University of Surrey

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PROFILE

Final-year BEng Computer & Internet Engineering student at the University of Surrey, with a track record of First-grade project work spanning C++/OOP, computer graphics, and enterprise/business development. Comfortable working across the software and business/data spectrum, with growing hands-on experience in AI-assisted software development and a current focus on building SQL, Power BI, and data analysis skills. Seeking internship and graduate opportunities in software engineering, data/BI analysis, and technology/business analyst roles.

TECHNICAL SKILLS

Languages: C++, Python, MATLAB, C

Office / Productivity: Microsoft Office (Excel, Word, PowerPoint)

Tools & Frameworks: OpenGL (GLSL), Git

Data / BI (in progress): SQL, Power BI

PROJECTS

C++ Logo/Turtle Graphics Interpreter

C++ and Object-Oriented Design, University of Surrey - First

- Built a C++ interpreter in a team of 3 that parses text-based drawing commands and renders graphics in real time using OpenGL
- Personally implemented four of five command classes (movement, rotation, nested-loop repeat) including their OpenGL render logic and custom input-stream parsing operators
- Designed an object-oriented architecture with an abstract base class and polymorphic dispatch, supporting nested loops for complex geometric patterns
- Added error handling for malformed input to fail gracefully rather than crash

PostureSense - Enterprise Project

Labs, Design & Professional Studies, University of Surrey - First

- Led project management and operations for a 7-person team developing a full business plan and pitch for a smart posture-correction wearable, from concept through to a Dragons' Den-style investor presentation
- Wrote the Executive Summary and Introduction of the 20-page business plan, researching market size and structuring the commercial proposition for an investor audience
- Presented the market sizing and 3-year financial model live to a judging panel, including a \$1.66B–\$2.76B global market opportunity and break-even analysis
- Owned Q&A responses on team structure, execution risk, and organisational strategy; coordinated rehearsals to keep the pitch within a 4-minute limit

OpenGL Tank Maze Game

Computer Vision & Graphics, University of Surrey - First

- Built a third-person tank maze game in C++ using the OpenGL 4.1 programmable pipeline (GLSL, GLFW, GLEW), implementing a full custom vertex/fragment shader pipeline with no fixed-function rendering
- Implemented a full Phong lighting model (ambient, diffuse, specular) with world-space normal transforms, alongside textured 3D models loaded from OBJ/BMP assets
- Developed core gameplay systems: acceleration/friction-based tank movement, independently rotating turret, projectile firing with simulated gravity/parabolic trajectories, and a spherical-coordinate third-person camera

- Built a file-based maze/level system with grid collision detection, multi-level progression, and a live HUD (score, timer, targets remaining)
- Debugged platform-specific rendering issues (GLFW/Apple Silicon framebuffer scaling) and worked within OpenGL core profile constraints (VAO requirements)

J.A.R.V.I.S - Personal AI Assistant

Ongoing solo project

- Designing and directing development of a local-first macOS AI assistant with persistent memory, voice interaction, and system-wide activation, built on Electron/React/TypeScript with a main/preload/renderer architecture
- Architected a provider-independent LLM integration layer (currently Groq API) supporting streaming responses, alongside local speech-to-text (Groq Whisper) and text-to-speech (Piper TTS) pipelines
- Built a persistent local memory system using SQLite with FTS5 full-text search for context retrieval, including explicit remember/forget commands, duplicate handling, and failure isolation
- Implemented secure local credential storage via macOS Keychain and a system-wide keyboard shortcut for voice activation from any application
- Working iteratively: defining requirements and architecture, reviewing and testing each feature, and maintaining structured Git checkpoints, using Claude Code as an implementation tool throughout

EDUCATION

University of Surrey - BEng Computer & Internet Engineering

Expected graduation 2027

Key modules: C++ and Object-Oriented Design, Computer Vision & Graphics, Labs, Design & Professional Studies, Computer Networking, Programming in C

Denbigh School - A-levels: Mathematics, Chemistry, Biology, and EPQ (How secure is IoT in smart homes?)

EXPERIENCE & ACTIVITIES

Youth Leader - Local Community Centre

Milton Keynes | 2022 – 2026

- Led and mentored youth groups through workshops and community events
- Organised educational and fundraising initiatives, enhancing leadership and teamwork

Martial Arts & Fitness: ITF Under-14s UK Champion (2018) in Taekwondo; maintains a structured gym routine focused on strength training and discipline

Languages: Fluent in English, Urdu, and Hindi