

Sinan Iqbal

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EDUCATION

Royal Holloway, University of London

Sep 2022 – Jul 2026

BSc Computer Science (with a Year In Industry)

- Achieved a First-Class Honours; with **84%** in **Algorithms and Complexity**, **82%** in **Advanced Algorithms and Complexity**, **87%** in **Intelligent Agents and Multi-Agent Systems**, and **93%** in the **Computational Finance** Practical and Theoretical Assignment
- Elected **First Year Representative** and later **Vice President** of the Computing Society

King's College London

Sep 2026 – Sep 2027

MSc Advanced Computing

EXPERIENCE

C++ Software Developer Placement

Sep 2024 – Sep 2025

Focusrite

King's Cross, London

- Maintained and extended **internal tools and libraries** across **multiple tech stacks**, supporting **cross-functional engineering teams** as part of the Software Tooling Team
- Expanded **internal C++20 libraries** powering 3+ generations of Scarlett hardware; adding support for older devices and features for upcoming products
- Wrote and extended **test coverage using Catch2**, even uncovering and fixing a faulty mock setup
- Supported **CI/CD migration from CircleCI to GitHub Actions** for internal tooling pipelines
- Helped design and plan new internal engineering tool, contributing to the **story map and system design. Proposed modern technologies** (Tauri + Svelte), breaking down features into issues, and began implementation at Sprint 0
- Facilitated **Agile ceremonies** including stand-ups and retrospectives
- Participated in **company-wide hackathons**, collaborating with different teams and eventually **winning with a 2D audio ray tracer prototype** in Python, later rebuilt in C++

Point of Care Testing Data Support Work Experience

Jul 2021

Guy's and St Thomas' NHS Foundation Trust

London

- Shadowed the POCT team to understand how diagnostic devices integrate with hospital data systems
- Assisted with formatting, cross-checking and exporting COVID-19 test result data using **Excel** and internal systems

PROJECTS

2D Audio Ray Tracer (Final Year Project) | C++, Python, Git

Sep 2025 – Apr 2026

- Built a geometric acoustics simulator in C++ from scratch with no external libraries, tracing energy carrying rays through successive specular reflections until their energy fell below an audibility threshold
- Solved ray to wall intersections analytically using Cramer's rule and reflected rays about surface normals, with an epsilon guard on the ray parameter to eliminate self intersection at bounce points
- Modelled per surface absorption driving multiplicative energy decay across bounces, detecting listener arrivals by closest approach along each segment rather than at endpoints
- Converted arrival times and energies into a 44.1 kHz room impulse response in Python, applying convolution to dry audio to render the simulated space audibly

Gourmet Restaurant Website | HTML/CSS, JavaScript, PostgreSQL, Python, Git

Jan 2024 – Mar 2024

- Led a team of 9 as Scrum Master, splitting tasks amongst ourselves using tools such as Trello and GitLab
- Functioned as a full-stack developer; engineered the backend using Flask and PostgreSQL, and contributed to frontend enhancements
- Bi-weekly scrum meetings with the client to refine and tailor our prototype based on their requirements

AI Radio Station - Winner of HackSussex 2023 | Python, Java, BeautifulSoup, OpenAI, Git

Feb 2023

- Collaborated with a team for 24 hours and won the University of Sussex's 2023 hackathon
- Created a web scraper for BBC news articles using BeautifulSoup, and fed scraped data into the OpenAI API to generate a radio show script read out by the ElevenLabs API

COMPETITIONS & AWARDS

Helped organise and run Royal Holloway's annual hackathons, **Royal Hackaway v6 & v7**

Hack AI 2023: Time-series forecasted the load factor of airlines in 2022 using a variety of data from 2017-2021

UKMT Senior Maths Challenge: Achieved Gold and Kangaroo

TECHNICAL SKILLS AND INTERESTS

Languages: Python, C++, Rust, Java, SQL, JavaScript

Quantitative & Finance: Options Pricing, Black-Scholes, Monte Carlo Simulations, Binomial Trees, Arbitrage

Technologies and Workflows: Git, Linux, CI/CD, Unit Testing (Catch2), TDD, BDD, Jira

Interests: Lacrosse, history, strategy games - competed on the main RHUL Esports team for Overwatch (winning Varsity 2026), and bouldering