

Ujaan Das

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Education

University of Warwick – MSc in Computer Science

Sept 2026

Hong Kong University of Science and Technology – BEng in Computer Engineering

May 2025

Northwestern University – Exchange Semester

Apr 2024

Experience

Software Engineer, Stellerus Technology – Hong Kong SAR

Jan 2025 - Aug 2025

- Engineered an agentic AI system using RAG to interpret natural language queries into geospatial commands, enhancing user interaction with the platform by providing more intuitive and accurate responses
- Refactored tool invocation logic using Pydantic AI, improving query reliability by 40% across RAG workflows
- Built an SSR Next.js chatbot widget with internal routing and streaming UI for real-time responses, improving user engagement and response times

Software Engineering Intern, CASTLE Lab, HKUST – Hong Kong SAR

May 2024 – Sept 2024

- Parsed and analyzed Java ASTs using Python and Spoon to inform research paper on LLM-assisted assertion generation, contributing to enhanced understanding of assertion generation techniques
- Built static analysis pipelines with AST transforms using Python javalang package to extract assertions and context across large codebases, facilitating deeper insights into code behavior
- Implemented Nix-based build pipelines to ensure sandboxed code snippets were executable by LLM, enhancing the reliability and accuracy of code execution

Software Development Intern, Stellerus Technology – Hong Kong SAR

May 2023 – Aug 2023

- Engineered a geospatial backend using FastAPI and GDAL, which served over 8,000 tile requests per second in less than 150 milliseconds
- Built MongoDB CRUD endpoints for tile metadata, enabling dynamic updates and cutting query latency by 55%
- Implemented Celery + Redis worker fleet to handle parallel throughput, reducing queue wait time by 60%
- Built multi-stage GitHub Actions CI for API and worker tests, boosting dev productivity and reducing CI costs

Software Engineering Intern, HCI Initiative, HKUST – Hong Kong SAR

Jun 2022 – Aug 2022

- Architected internal React framework using TypeScript, Tailwind, and Vite for scalable UI development
- Leveraged this framework to build real-time video comparison interface, integrating WebSockets and Recharts
- Instrumented telemetry to capture 50K+ user interactions per session, driving actionable insights for the ACM/IUT'24 publication on front-end architecture and UX instrumentation

Projects

Portquote

Private

- Open-source SaaS using Go and React to codegen + auto-deploy microservices from user-defined schemas for shipping quotes, enabling live, 0-downtime vendor comparisons via isolated Redis caches + Postgres

Follow-Me Robot

github.com/FinalYearProject

- Developed sub-cm precision follow-me navigation system using custom UWB ROS2 Python node with real-time Nav2 integration, multi-axis smoothing via jump, Kalman, and EMA filters for jitter-resilient tracking

Skills

Languages: Python, TypeScript, JavaScript, Go, Java, SQL, HTML, CSS

Frameworks/Libraries: React.js, Next.js, Vite, NPM, FastAPI, Maven, Node.js

Databases: MongoDB, PostgreSQL, MySQL, SQLite, Redis

Developer Tools: Docker, Git, REST, Nix, NGINX, Azure, AWS, Github Actions CI/CD