

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
<ul style="list-style-type: none">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 responsesRefactored tool invocation logic using Pydantic AI, improving query reliability by 40% across RAG workflowsBuilt 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
<ul style="list-style-type: none">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 techniquesBuilt static analysis pipelines with AST transforms using Python javalang package to extract assertions and context across large codebases, facilitating deeper insights into code behaviorImplemented 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
<ul style="list-style-type: none">Engineered a geospatial backend using FastAPI and GDAL, which served over 8,000 tile requests per second in less than 150 millisecondsBuilt 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
<ul style="list-style-type: none">Architected internal React framework using TypeScript, Tailwind, and Vite for scalable UI developmentLeveraged this framework to build real-time video comparison interface, integrating WebSockets and RechartsInstrumented telemetry to capture 50K+ user interactions per session, driving actionable insights for the ACM/IUI'24 publication on front-end architecture and UX instrumentation	

Projects

Portquote	Private
<ul style="list-style-type: none">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
<ul style="list-style-type: none">Developed sub-cm precision follow-me navigation system using custom UWB ROS2 Python and C++ nodes with real-time Nav2 integration, multi-axis smoothing via jump, Kalman, and EMA filters for jitter-resilient tracking	

Skills

Languages: Python, Go, C, C++, Typescript, Javascript, SQL, HTML, CSS

Frameworks/Libraries: React.js, Next.js, ROS2, FastAPI

Databases: MongoDB, PostgreSQL, MySQL, SQLite, Redis

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