

BHANUKA BANDARA EKANAYAKE

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EDUCATION

National University of Singapore (NUS)

Aug 2022 - Jul 2026

Bachelor of Computing in Computer Science

- Software Engineering Principles and Patterns (CS3219)
- Software Testing (CS4218)
- Wireless Networking (CS4222)

NUS College (NUSC)

Aug 2022 - Jul 2026

- Quantum Computation (NST2030)
- Elixir of Life: Manufacturing Cells as Medicine (NST2048)
- The Digital Lives of Species (NST2058)

TECHNICAL SKILLS

- Programming Languages: Python, Java, JavaScript, TypeScript, C
- Front-end Full-stack: Angular, React
- Back-end Full-stack: Node.js, Express.js
- Database: MongoDB, Redis, CosmosDB, ClickHouse
- Testing: Jest, SonarQube, Playwright, JMeter, Vitest, Pytest
- Python Libraries: FastAPI, Uvicorn, Pydantic, LangChain, boto3
- Miscellaneous: Docker, Spring Boot, Grafana, Keycloak

PROJECTS

Virtual Vault, Software Developer

Jan 2025 - May 2025

- Carried out Testing on a full-stack MERN e-commerce project, including but not limited to, unit tests, integration tests, UI tests and performance testing

SensorTag, Software Developer

Jan 2025 - May 2025

- Programmed a Texas Instruments SensorTag CC2650 that runs on Contiki
- Worked with embedded systems, real-time sensor data processing and IoT networking

PeerPrep, Software Developer

Aug 2024 - Dec 2024

- Developed a Web Dev application collaborative coding website, complete with a question bank, user page and authentication and a matching service to match users

EXPERIENCE

Robert Bosch (South East Asia), AIoT Software Developer (Internship)

Jun 2025 – Dec 2025

- Built and shipped customer-facing Angular and React frontends, integrating with Spring Boot and Python backends; Implemented responsive layouts, role-based authentication and API-driven state management and validated with 100% E2E and Unit tests
- Implemented Grafana and Infinity dashboards for Keycloak (logins, failures, token flows), using parameterised variables (realm/client/time), data transformations and reusable JSON panel definitions; Produced comprehensive SOPs enabling cross-team reuse and faster RCA
- Set up Playwright E2E across multiple apps and integrated runs into Azure DevOps with Monocart HTML reports and JUnit artifacts; Enabled auto-gated merges in SIT, reduced manual QA and caught regressions earlier, with suites covering 100% of defined user flows
- Designed a natural-language SQL analytics software using LangChain and Bedrock Converse with schema-aware context injection, SQL guardrails and a chart-ability gate to avoid heavy payloads when visuals were not needed
- Transitioned the natural-language SQL into a multi-modal system and tuned ClickHouse for large queries; Right-sized mark-cache, validated spill settings, set concurrency limits and scoped projections to stabilise memory and latency, reducing query times by 50%
- Built a multi-pipeline Azure DevOps setup from scratch; Authored reusable templates, configured automatic triggers, ran builds on SL4 agents/Azure, executed tests and published Docker images to Azure registries and AWS Lightsail