

## EDUCATION

**Nanyang Technological University, Singapore**

Jul 2022 - Jul 2026

**Bachelor of Computing in Computer Science, GPA: 4.41**

- Centre Head, LEAPS Centre, 2024 - Welfare Service Club, Friends of Children

## ADDITIONAL INFORMATION

Github: <https://github.com/jdengoh>

LinkedIn: <https://www.linkedin.com/in/jdengoh>

## WORK EXPERIENCE

### SYNAPXE

Jan 2025 - Present

#### AI and Full-Stack Developer Intern

- Built new production-ready asynchronous FastAPI backend for HealthHub AI leveraging Microsoft's Semantic Kernel framework to enable advanced agentic RAG workflows for intelligent healthcare query processing
- Developed universal multi-lingual support for HealthHub AI with Azure Speech SDK and OpenAI Speech models, enabling real-time speech-to-text and text-to-speech capabilities for more than 100 language sets.
- Researched and prototyped LangGraph agentic workflows, designing multi-agent orchestration for autonomous task management to enhance patient interaction workflows
- Implemented Redis write-through caching layer for HealthHub AI chat history, reducing direct CosmosDB queries by 50% through in-memory retrieval and cost-efficient database access patterns
- Enhanced Azure infrastructure deployment with Bicep templates, automating deployment workflows by configuring environment variables and deploying AI foundry models for scalable HealthHub AI production environment

### Hummingbird Bioscience

May 2023 - Aug 2023

#### Information Technology Intern

- Led large-scale data clean-up and standardization for company asset database in Azure-hosted MariaDB, processing thousands of records to modernize infrastructure.
- Created comprehensive user documentation and conducted UAT for reworked inventory management application, testing workflows and features to ensure robust tracking of 1000+ company assets
- Improved email notification system's reliability in Node.js application, resolving timing inconsistencies and implementing enhanced distribution logic for approval workflows for research departments (20+ employees)
- Maintained Ubuntu Linux systems on Azure, executing source compilation for application upgrades and resolving system errors through comprehensive log tracing and debugging

## PROJECTS

### Kamacho - Web Application

Mar 2025 - Present

#### Tech Lead

- <https://www.kamacho.site>
- Pitched Kamacho startup to NTU NEST Programme evaluators, successfully securing Multi-disciplinary Team funding of S\$10,000 by demonstrating viable solution to address business challenges
- Developed Django REST Framework APIs with JWT authentication and type-validated endpoints, following Django design principles to ensure maintainable and scalable backend architecture
- Designed PostgreSQL database architecture from ground up, structuring normalized schema with Django models and handling database migrations across environments

### SingVentures - NTU GDG FinForge Hackathon, 1st Runner-Up

Apr 2025 - Apr 2025

#### Backend Lead and AI Engineer

- <https://github.com/jdengoh/SingVentures>
- Led a team of 4 developers to create SingVentures AI investment platform, achieving 1st Runner-Up at NTU FinForge Hackathon 2025, bridging the gap between investors and startups with AI-driven insights
- Engineered FastAPI backend with SQLite database and integrated OpenAI and Groq APIs to power real-time portfolio analytics, AI-driven risk assessment, and market sentiment analysis
- Built LangGraph multi-agent workflows for due diligence processing, incorporating intelligent document analysis and multi-stage investigation of startup investment opportunities

### Multidisciplinary Project

Aug 2024 - Oct 2024

#### RPI Development and Computer Vision

- [https://github.com/jdengoh/MDP\\_Grp4\\_rpi](https://github.com/jdengoh/MDP_Grp4_rpi)
- Achieved 9th place among 50+ teams in autonomous maze navigation and 15th place in speed/accuracy challenges, delivering 100% image recognition accuracy for real-time object detection
- Architected multi-process architecture with Python multiprocessing library, orchestrating concurrent STM board communication, Android bluetooth communication, path-finding algorithms, and YOLOv5 image inference server
- Trained custom YOLOv5 model for real-time object detection using 2,000+ annotated images processed through Roboflow