KIA JIA HAN

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EDUCATION

Singapore University of Technology and Design **2024 – 2028**
B.Eng. in Computer Science and Design

- SUTD Global Distinguished Scholarship, CGPA: 4.64/5.00, Honours (Highest Distinction)
- Relevant Coursework: Algorithms, Elements of Software Construction, Computer System Engineering, Machine Learning
- Awards/Competitions: SUTD Honours List AY2025 & AY2026 (Top 10%); Deep Dive Singapore – 1st; Deep Dive Finland – Finalist; Information Systems & Programming Project – 1st; Sea x OpenAI Codex Regional Hackathon; Gemini 3 Hackathon

EXPERIENCE

Agentic AI Software Engineer | SUTD x Singapore General Hospital **Jan 2026 – Present**

- Built a stateful LangGraph-based AI agent using Python/Flask, Gemini function calling, and SQLiteCloud checkpointing, enabling interrupt/resume workflows and persistent multi-session caregiver interactions
- Designed human-in-the-loop clinician workflows for caregiver-patient alignment, including SIC extraction, bilingual dialogue, distress monitoring, and AI-generated session summaries
- Collaborated with clinical stakeholders to map and refine care workflows, advancing the platform to UAT with patients and caregivers while improving reliability and usability and refining evaluation criteria
- Maintained the codebase with automated testing, static type checking, structured logging, and GitHub Actions CI

AI Research Intern | A*STAR I2R, MI Dept **Feb 2026 – Present**

- Designed a new jailbreak method to stress-test LLM/RAG applications in single- and multi-turn settings, and benchmarked chatbot robustness against SOTA attacks (TAP, LLM-adaptive prompting, Crescendo, X-Teaming, ActorAttack)
- Analyzed failure modes including unsafe completions, policy evasion, retrieval leakage, and system-prompt leakage
- Training and evaluating a RoMaV2-based dense feature-matching model for pixel-level semiconductor defect localization

AI Software Engineer (Industry Project) | Dyslexia Association of Singapore **May 2026 – Aug 2026**

- Built the retrieval layer of a RAG literacy-activity generator for learners with dyslexia (React, FastAPI, Supabase; 8-person team): chunked and embedded 264 lesson-plan chunks into a pgvector knowledge base with metadata-filtered hybrid search and a similarity gate that refuses weakly grounded requests
- Evaluated embedding models on a 28-case golden set and RAGAS checks, choosing the embedder on measured trade-offs between ranking quality and off-topic query rejection
- Wrote tests for a four-tier CI suite (657 tests on GitHub Actions) and built a custom coverage-guided fuzzer for the backend parsers and API, iterating on its design after early versions underperformed

AI Software Engineer Intern | Cynapse.ai **Sep 2025 – Feb 2026**

- Fine-tuned CLIP, BLIP, and SigLIP encoders on custom-scraped image-caption datasets for text-image retrieval (above 80% Recall@5, 90% Recall@10), using Grounding DINO for detection; deployed by LTA for traffic incident monitoring
- Built an end-to-end training-data pipeline from raw CCTV footage, segmenting scenes with TransNetV2, labelling incident severity with a custom-built Streamlit annotation tool, and auto-captioning frames with Gemini Flash
- Fine-tuned a pre-trained Mask2Former for road-marking panoptic segmentation
- Implemented visual re-ID (ResNet-50, OSNet) and a CVLFace pipeline for low-resolution face recognition

Co-Founder, Software Engineer | AMI Neuroworks **Jan 2025 – Dec 2025**

- Built and deployed a multi-platform Unity (C#) MVP on Azure with Azure OpenAI and Azure Speech (STT/TTS), debugging latency and audio-state issues and iterating on UX from live testing feedback
- Co-founded a student deep-tech startup tackling cognitive decline and loneliness in the elderly; piloted at Tianjin Perennial Hospital and deployed across 9 Singapore eldercare centres to 1,000+ elderly users in closed beta; secured over S$150k in incubation funding

Undergraduate Research Assistant | SUTD **Jan 2025 – Aug 2025**

- Reverse-engineered RML models with ML: clustered model transitions (DBSCAN, Hough Transform) and inferred PRISM guarded commands via logistic regression

PROJECTS

StoryWeaver – Generative Mystery Game (Java, Android) | ISP Project, 1st Prize **Feb 2026 – May 2026**

- Built the GenAI narrative engine and RAG retrieval, aligning stories with a Wave Function Collapse map and game state
- Selected by SUTD to be preserved as a showcase project for future open houses and freshmore sharing sessions on the module

TECHNICAL SKILLS

Programming: Python, Java, JavaScript, C++, C, C#, SQL; Linux
AI Agents / LLMs: LangGraph, LangChain, RAG, Embeddings, Function Calling, Prompt Engineering, LLM Evaluation
Software / Backend: Flask, FastAPI, REST APIs, Supabase, React, SQLiteCloud, Docker, Azure, Git, GitHub Actions
ML / Vision: PyTorch, TensorFlow, scikit-learn, OpenCV, CLIP, SigLIP, Hugging Face Transformers, NumPy, pandas