Kok Shan Jin

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PROJECTS

Smart Study Space | *Raspberry Pi, YOLOv11, MQTT, AWS, React* 2026

- Built an edge system on 3 Raspberry Pis that detects people with YOLOv11-Nano, senses bags and laptops left on seats with ultrasonic sensors and combines both through an MQTT gateway to mark each seat occupied, reserved or vacant, with about 1.6s end-to-end latency.
- Redesigned the React dashboard: connected it to the serverless AWS backend (API Gateway, Lambda, DynamoDB, S3), built the live noise meter and mobile layout.

JobCupid: AI Job Matching Platform | *Next.js, Node.js, Python, OpenAI API* 2025 - 2026

- Built and deploy a full-stack app that turns one PDF resume into a ranked list of live Singapore job openings; an LLM extracts skills, seniority and job titles as validated JSON, and listings are ranked by embedding similarity and skill matching, with one-click AI cover letters.
- Awarded a Certificate of Excellence at the NUS Guru AI Innovation Hackathon.

AI Android Fitness Application | *Kotlin, Google ML Kit, ARCore, Google Maps* Mar 2025

- Built an Android app to improve IPPT performance, with AI pose detection to count push-up and sit-up reps and check form in real time, AR form tutorials and GPS-based 2.4km run tracking.

EDUCATION

Singapore Institute of Technology Aug 2023 - Aug 2027

Bachelor of Engineering (Honours) in Information and Communications Technology, Software Engineering

Republic Polytechnic Apr 2018 - Apr 2021

Diploma in Information Technology

- Edusave Merit Bursary; Certificate of Academic Achievement (twice); Top 25% of cohort

WORK EXPERIENCE

PSA International | *Global PORTNET Intern* May 2026 - May 2027 (expected)

- Built end-to-end automation suites in Playwright and TypeScript (Page Object Model) to validate port-side cargo import/export and vessel-side operations modules after migration from UAT to production, against live SSO and backends, with three-layer verification (UI, read-only SQL checks, audit-event assertions) and automated evidence reports.
- Uncovered and fixed defects through automation, including date parsing errors, wrong-row updates and duplicate-key clashes.

NEC Asia Pacific Pte Ltd | *Assistant Engineer* Feb 2021 - Apr 2021

- Developed a mobile app for real-time inventory tracking with barcode scanning and push notifications, extending the company's inventory system; led usability and reliability testing.

NEC Asia Pacific Pte Ltd | *Application Developer* Sep 2020 - Jan 2021

- Built an inventory management website with movement tracking, automated notifications and usage analytics, translating stakeholders' operational requirements into features.

CERTIFICATIONS

Professional Scrum Master I (PSM I), Scrum.org 2026

Dataiku Core Designer, Dataiku 2026

ACTIVITIES & INVOLVEMENT

SIT Handball | *Varsity Player* Sep 2023 - Aug 2026

- Won 3rd place at the Institute-Varsity-Polytechnic (IVP) Games 2026; competed in the Tertiary Handball Invitational Championship 2024, 2025, 2026.

Tech Mentor | *National Youth Tech Championship* Jul 2025

- Featured in The Straits Times for mentoring students programming AI drones in Python at an IMDA and Google Cloud challenge.

DSTA BrainHack Hackathon

- Designed a mobile app architecture and wireframe prototype Jul 2024

Orientation Leader (Helix) & Volunteer (HWWS)

- Mentored freshmen; distributed care packs to families 2023 - 2025

TECHNICAL SKILLS

Languages: Python, TypeScript, JavaScript, Java, Kotlin, C, C++, SQL, HTML5, CSS3
Frameworks & Libraries: React, Next.js, Angular, Node.js, Express.js, Flask, SQLAlchemy, Flutter, Jetpack Compose, ARCore
AI & Data: RAG (hybrid BM25 + vector search), NLP (TF-IDF, embeddings), OpenAI API, Google ML Kit, YOLO
Edge & IoT: Raspberry Pi, MQTT, sensor fusion, GPIO sensors, Arduino
Testing & Quality: Playwright, Page Object Model, Espresso, BDD (SpecFlow), SonarQube, Postman, requirements traceability
Databases & Messaging: MySQL, PostgreSQL, SQLite, MongoDB, Kafka
Cloud & DevOps: AWS (Lambda, API gateway, DynamoDB, S3, EMR), Google Cloud, Docker, Kubernetes, Apache Spark, GitHub Actions, Azure DevOps, Git, Vercel
Security: Mobile app security testing with Burp Suite, MobSF, Frida, JADX
Practices: Agile/Scrum, OOP and design patterns, formal verification (SPIN, Frama-C)