

TRIN CHUAINUGOON

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EDUCATION

Bachelor of Engineering Program in Software Engineering
Thammasat University (Rangsit campus) GPA: 3.55

August 2024 - Present
Expected Graduation, May 2027

WORK EXPERIENCES

True Corporation

May - July 2026

Software Engineer Intern – E-commerce Team

- **Slashed ID card rendering latency to sub-100ms and eliminated 250+ transitive dependencies** by replacing a JavaScript canvas pipeline with a WebAssembly-powered PDFium engine using direct pixel-buffer processing.
- **Eliminated Out-of-Memory risks and ensured 100% server stability on 512MB RAM** nodes by engineering an asynchronous execution throttling pool and automated WebAssembly resource lifecycle management.
- **Expanded microservice capabilities to support multi-format PDF/PNG** output with dynamic 72–300 DPI scaling by architecting an isolated rendering pipeline using **Express.js**, **Node.js**, pdf-to-png-converter, and Sharp, with **AWS CodeCommit** for source code management.

Inspection Technology Co., LTD

January - May 2026

Backend Engineer Contract – Authorization and Authentication

- **Accelerated user onboarding by 20%** by architecting a centralized TypeScript **NestJS** API Gateway and identity microservice with **Google OAuth** 2.0 and **JWT**, deployed as scalable containers on **Google Cloud** Run.
- **Decreased database latency by 30%** and **scaled capacity to 750 concurrent requests** by deploying a high-performance Redis caching layer and integrating a global rate-limiter backed by Google Cloud SQL for PostgreSQL.
- **Achieved 99.9% session uptime** and **zero token-refresh** errors by engineering a synchronized state algorithm and managing **Dockerized** backend infrastructure across **GCP environments**.

National Electronics and Computer Technology Center (NECTEC)

June - July 2025

AI Researcher Assistant Intern – Automatic Speech Recognition and Text-to-Speech Lab

- **Accelerated audio processing throughput by 60%** by engineering a concurrent batch-processing algorithm to evaluate sound segments simultaneously.
- **Increased transcription accuracy by 30%** by architecting a waveform-segmentation pipeline that optimizes audio micro-segments prior to AI model ingestion.
- **Deployed end-to-end AI speech recognition capabilities** by integrating **Nvidia Riva** and **NeMo** services with a **FastAPI** backend and a **Next.js** frontend.

PROJECTS

LifeGear Project

September - November 2025

Technical Lead

- Achieved sub-50ms data retrieval times by engineering a **RESTful API** suite and a normalized **PostgreSQL** schema on **Supabase**, utilizing **Python** and **FastAPI**.
- Scaled complex calendar rendering to support 100+ concurrent users with zero layout shift by developing a custom date-processing algorithm utilizing Next.js and **Tailwind CSS**.
- Eliminated idle infrastructure overhead by 100% with zero unauthorized access incidents by architecting an auto-sleeping **Docker** backend on **Fly.io** and enforcing PostgreSQL Row-Level Security.

LEADERSHIP & AWARDS

Microsoft

June 2025

- Be a finalist team at the Microsoft AI Hackathon 2025 by architecting an AI-driven predictive analytics and forecasting platform for SMEs.

Thai Webmaster & Online Media Association

June 2025

- Awarded 1st place at Young Webmaster Camp 20 by architecting "Changchao," a peer-to-peer construction equipment marketplace.

SKILLS

Programming: JavaScript, TypeScript, Node.js, React.js, Python, Java, HTML, CSS

Languages: English, Thai

Technical/Programmatic: Data Structure and Algorithms, Microservices architecture

Platform: Linux, Windows, MacOS