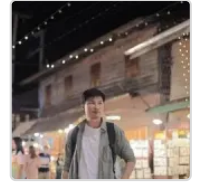


Tawatchai Insree

Senior Full Stack Software Engineer

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8+ years building and operating end-to-end production systems across e-commerce, logistics, IoT, fintech and education. Backend architecture in TypeScript, Go and Python; Kubernetes in production on both Azure AKS and self-hosted k3s; and a home AI stack serving local LLMs on a Tesla V100. Production owner, not only a builder.

EXPERIENCE

Senior Full Stack Software Engineer

Mar 2024 — Present

RIS Co., Ltd.

- Architected multi-platform product & listing pipelines for **Grabmart, Lineman, Foodpanda, Shopee, Shopee Mart and Lazada** — catalog sync, stock management, and order routing at scale.
- Built an **order management system** handling order ingestion, status tracking, fulfillment routing, and reconciliation across all delivery platforms.
- Designed event-driven price & stock synchronization using **RabbitMQ** and **Kafka** — decoupled producer/consumer pipelines keeping inventory consistent in near real time.
- Built microservice backends in **NestJS (TypeScript)** and **Go**; data pipeline workers in **Python**; all backed by **PostgreSQL** and **MS SQL** with optimized query layers.
- Developed internal **Angular** dashboards for product management, promotion configuration, order monitoring, and real-time platform status.
- Containerized all services with **Docker** and ran CI/CD through **Azure Pipelines**.
- Deployed and operated every workload on **Azure Kubernetes Service (AKS)** — rolling updates, HPA autoscaling, resource tuning, and namespace management.
- Served as **production owner**: on-call incident response, query profiling, performance bottleneck resolution, and reliability initiatives.

Senior Software Engineer

Jan 2018 — Present

Self-employed

- **Building inspection & monitoring system** — NestJS + Angular + PostgreSQL; field data collection, multi-site dashboard, automated PDF compliance reports.
- **Binance copy-trading automation** — Node.js + Binance WebSocket API; real-time order mirroring, position sizing, risk controls, and Telegram alerting.
- **School management system** (Satee Phuket) — Angular + Node.js + MySQL; class scheduling, attendance, student records, teacher and admin portals.
- **Wholesale alcohol sales platform** — NestJS + Angular + MS SQL; catalog, order processing, inventory, and automated Thai tax invoice generation.

Senior Full Stack Developer

May 2021 — Feb 2024

Legionnest Co., Ltd.

- Built and maintained full-stack products with **Angular, React, NestJS, Node.js/Express** and **MongoDB / MySQL / MariaDB** — e-commerce, insurance, healthcare and pet-service platforms.
- Developed **MQTT** (EMQX broker) and **WebSocket** real-time layers for IoT device management dashboards.
- Integrated payments: **Omise** (credit card, installment) and direct **SCB / KBank** bank APIs.
- Containerized services with **Docker** and implemented **GitLab CI/CD** pipelines.
- Maintained **GCP Compute Engine** Linux servers — Nginx reverse proxy, SSL/TLS, firewall, and performance monitoring.

Intellect Network Web Co., Ltd.

- Delivered end-to-end IoT products: firmware on **ESP32**, **Arduino**, **Raspberry Pi**, a **Node.js/Python** backend, and **Angular** real-time monitoring dashboards.
- Implemented **MQTT** bi-directional device communication for sensor streaming and remote control with sub-second latency, backed by **MongoDB** and **MySQL** on **GCP**.
- Programmed microcontrollers in **C/C++** and **Python** on Raspberry Pi / Orange Pi running embedded Linux.
- Designed PCB schematics and circuit prototypes in **Proteus** for hardware validation before manufacturing.

SELECTED PROJECTS

Marketplace Integration Platform

2024 — Present · RIS Co., Ltd.

Multi-platform product & order pipelines for Grabmart, Lineman, Foodpanda, Shopee and Lazada — catalog sync, stock management, and real-time order routing at scale.

NestJS · Go · Python · Angular · RabbitMQ · Kafka · PostgreSQL · MS SQL · AKS

wiplux.com — IoT Smart Energy Monitor

2019 — 2021 · Intellect Network Web Co., Ltd.

Smart plug IoT platform with real-time energy monitoring, remote scheduling and multi-device control — ESP32 firmware, MQTT transport, and a live Angular dashboard.

ESP32 · C/C++ · Node.js · Angular · MQTT · MongoDB · GCP

LLM-Local — Local Inference Stack

2025 — Present · emmiedev.com

llama.cpp and vLLM engines on a Tesla V100 behind a FastAPI OpenAI-compatible gateway, with a NestJS + Angular console for engine, model and API-key management.

llama.cpp · vLLM · FastAPI · NestJS · Angular · CUDA · systemd

Teams Work Secretary

2025 — Present · emmiedev.com

An assistant that reads Microsoft Teams threads, retrieves from a pgvector knowledge base and drafts replies — rolled out through staged OFF, OBSERVE, SHADOW and LIVE run modes.

FastAPI · Angular · PostgreSQL · pgvector · RAG · Power Automate

k3s Homelab Cluster

2024 — Present · emmiedev.com

A single-node k3s cluster behind home NAT, reachable only through an SSH reverse tunnel to a DigitalOcean VPS, fronted by Cloudflare with Traefik v3 and Longhorn storage.

k3s · Traefik v3 · Longhorn · cert-manager · ArgoCD · Cloudflare

Coding Challenges Judge

2023 — Present · emmiedev.com

A self-hosted competitive programming judge — sandboxed multi-language execution in throwaway Kubernetes Jobs, a live leaderboard, and shareable submissions.

Go · Fastify · Angular · PostgreSQL · Redis · k3s

TECHNICAL SKILLS

AI & LLM Engineering

llama.cpp · vLLM · GGUF Quantization · Speculative Decoding (MTP) · KV-Cache Sizing · OpenAI-compatible Gateway · SSE Token Streaming · RAG / pgvector · Prompt Engineering · Agentic Coding Tooling · LLM Benchmarking (TTFT / tok-s)

GPU & Model Ops

Proxmox VE · NVIDIA Driver / CUDA 12.x · VRAM Budgeting · Concurrency & Queue Control · Throughput vs Latency Tuning · GPU Thermal & Fan Control · systemd Unit Design · nvidia-smi / DCGM Metrics

Languages

TypeScript · JavaScript · Go · Python · Embedded C / C++

Backend

NestJS · Node.js · Express.js · FastAPI · RESTful API · WebSocket · MQTT · OAuth / JWT · TypeORM · Scripting / Automation

Frontend

Angular · React · Ionic · RxJS / Signals · Angular SSR · HTML5 / CSS3 · SCSS / SASS

Databases	PostgreSQL · MS SQL · MySQL / MariaDB · MongoDB · Redis · pgvector · Schema Design · Query Optimization
Cloud & Platform	Kubernetes (AKS, k3s) · Docker · Azure · Azure DevOps · GCP · Linux / Nginx · SSL/TLS · Reverse Proxy · Cloudflare / Forward-auth SSO · Reverse SSH Tunnel / NAT Traversal
CI/CD & GitOps	Azure Pipelines · Woodpecker CI · ArgoCD · GitOps / Declarative Deploys · Harbor Registry · Multi-stage Image Builds · Image Tagging & Promotion · Rollback & Self-heal · Trivy Image Scanning · Self-hosted Runners · Pipeline Test Gates
Observability & Monitoring	Prometheus · Grafana · Loki · Alertmanager · Blackbox Exporter · node-exporter · NVIDIA GPU Exporter · kube-state-metrics · pve-exporter · windows-exporter · OpenObserve · Structured Logging · Alert Rules & Runbooks · Latency & Throughput Dashboards
Architecture & Integration	Microservices · RabbitMQ · Kafka · System Design · ER Diagram · Payment Integration · Omise / Bank APIs · Mono Repo · Cronjob / Scheduler · Git · Agile / Scrum
Embedded & IoT	Raspberry Pi / Orange Pi · Arduino / ESP32 · Embedded Linux · PCB Schematic (Proteus)
Testing & QA	Jest · Cypress · Supertest · Postman · Swagger / OpenAPI

HOMELAB & AI INFRASTRUCTURE

10 VMs on Proxmox (54 vCPU, 98 GB RAM) plus a VPS relay, running a single-node k3s cluster behind NAT and a NVIDIA Tesla V100-PCIE 32 GB serving Qwen3.6-35B-A3B (MoE, Q5_K_XL) at ~111 tok/s through llama.cpp and vLLM behind a FastAPI OpenAI-compatible gateway — generation, embeddings and reranking on one card. GitOps deployment with Woodpecker CI, Harbor and ArgoCD; Prometheus, Grafana and Loki scraping the fleet from outside the cluster.

100	AI	k3s single node · 10.10.10.10 · 14 vCPU · 24 GB Traefik v3 ingress · Longhorn storage · every public app runs here
101	monitor	observability · 10.10.10.11 · 4 vCPU · 8 GB Prometheus · Grafana · Loki · blackbox + node/GPU exporters · scrapes the fleet from outside the cluster
102	win11	Windows workstation · 10.10.10.12 · 4 vCPU · 8 GB windows-exporter metrics · tooling that has no Linux build
103	registry	container registry · 10.10.10.13 · 4 vCPU · 8 GB Harbor · signed images for every homelab service
104	edge	ingress & SSO · 10.10.10.14 · 2 vCPU · 4 GB nginx TLS termination · Google SSO forward-auth
105	data	databases · 10.10.10.15 · 2 vCPU · 4 GB PostgreSQL · moved out of the cluster on purpose — data outlives clusters
106	CICD	build & deploy · 10.10.10.16 · 8 vCPU · 8 GB Woodpecker CI · ArgoCD — outside the cluster it deploys to
107	storage	bulk storage · 10.10.10.17 · 4 vCPU · 6 GB backups and model artefacts
200	llm-server	GPU inference host · 10.10.10.20 · 8 vCPU · 24 GB NVIDIA Tesla V100 32 GB · llama.cpp + vLLM engines · generation · embeddings · reranking
201	gateway	spare capacity · 10.10.10.21 · 4 vCPU · 4 GB kept free for staging and migrations

Plus **VPS relay** (DigitalOcean SGP1) — nginx + autossh reverse tunnel · fail2ban · UFW limited to Cloudflare ranges · the home cluster sits behind NAT and is reachable no other way.

EDUCATION

Bachelor's Degree in Computer Engineering — Rajamangala University of Technology Srivijaya, Songkhla
2015 — 2019

Vocational Certificate in Electronics Technician — Hatyai Technology College, Songkhla 2012 — 2015

AWARDS

2019 • 1st Place — Natural Disaster Alert System with IoT — 10th Engineering Academic Event
RMUT Academic Skills Competition · Lanna Campus

2019 • 2nd Runner-Up — Smart Home System Development — 9th Engineering Academic Event
RMUT Academic Skills Competition · Krungthep Campus

2018 • 1st Place — Team Programming Competition — 8th Engineering Academic Event
RMUT Academic Skills Competition · Isan Campus, Khon Kaen

2015 • 1st Runner-Up — Microprocessor Programming & Circuit Design Competition
Southern Regional Academic Skills Competition

2014 • 1st Place — Digital Circuit Design Competition
Southern Regional Academic Skills Competition

2013 • 1st Runner-Up — Digital Circuit Design Competition
Southern Regional Academic Skills Competition