Ratchaphon Khaemphukhiao

"RUSH AI"

Staff Applied AI Engineer · Edge AI & ML Infrastructure

ratchaphon@rush0100.com
(+66) 66 149 8641
profile.rush0100.com · linkedin.com/in/ratchaphon · github.com/rush0100 · github.com/Ratchaphon
Bangkok, Thailand · open to Shenzhen / Hong Kong / Singapore / remote
Expected salary: THB 400,000 / month (base)

> Applied AI engineer who ships end-to-end — from biosignal hardware and firmware to ML infrastructure and agent-built products — proven by building a complete BCI wellness platform solo in 2025.

SUMMARY

Ten years from biosignal hardware to production AI; founder who has raised THB 1.8M in government grants and THB 3.2M in Google Cloud credits, and a member of NVIDIA Inception. I design EEG and radar sensing, write the firmware, build the ML infrastructure (NVIDIA A100/H100 multi-cluster, Kubernetes, LLMOps) and ship the product on top — fast: in 2025 I built Baojai, a brain-computer-interface wellness platform (iOS/Android app in 5 languages, smart rings, EEG headsets, microservices backend, portable GCP↔Tencent cloud) alone, using AI coding agents. Certified Google ML Engineer, TensorFlow Developer and CKA. Five peer-reviewed papers (IEEE / BMEiCON) on contactless respiration, EEG meditation assessment and mmWave radar sensing; Platinum Award and Gold Medal with Jury Congratulations at BME IIF 2026 (Fukuoka).

SELECTED IMPACT

Shipped a full BCI product solo in 12 months (2025)
App, BLE firmware integration for rings and EEG headsets, on-device camera rPPG heart rate, real-time biofeedback, live group rooms, AI voice and insights, staff console — built end-to-end with AI agents. Capability-based sensor architecture: new hardware appears in every screen with no app change.

Built the A100 infrastructure behind a national AI platform (2022–24)
Designed the multi-cluster microservices system for AI Connect (NT) and VISAI's AI Cloud Platform, plus an A100 NLP system for the Central Investigation Bureau; LLMOps/MLOps/DevOps across hybrid cloud.

Delivered bank- and exchange-grade AI (2025)
Lead tech consultant for a bank's hyper-personalised marketing programme and the Stock Exchange of Thailand's ATLAS automated company-information system; A100/H100 hosting, CI/CD, model versioning.

Internationally awarded biosignal research
Platinum Award + Gold Medal with Jury Congratulations, BME IIF 2026; EEG + wearable during meditation (BMEiCON 2026, with KMITL); Young Makers 2016 national winner; three IEEE papers on Doppler / 24 GHz radar respiration.

COMMUNITY

RUSH0100 — founder · github.com/rush0100 · rush0100.com. A builder community for people who start from zero and go to 100 (0 → 1 → 10 → 100): open-source tooling and shared learning in intelligence platforms, human technology (wellbeing products) and applied robotics — e.g. an open Python client for the TI ADS1299 EEG front-end, and R0, a research concept for an extensible intelligence runtime.

EXPERIENCE

Founder & CEO — Kaset AI Co., Ltd. (registered capital THB 60M) · Founder & CTO — SC AI Co., Ltd.
Pathum Thani · Aug 2025 – present

- Kaset AI is the parent company: IT management, infrastructure and digital-platform services for government agencies and large enterprises, with subsidiaries in agri-biotech manufacturing, land investment and R&D. SC AI is the AI product company: AI/ML, IoT, cloud and AI security solutions for Thai and international clients.
- Built the **Baojai** platform solo with AI coding agents: BCI-guided wellbeing app (music, meditation, podcasts, sleep), Meditation Camera measuring breathing and heart rate on device, live EEG/HRV biofeedback, group rooms, coach marketplace; own hardware — Baojai Ring and EEG headsets over BLE; 5 languages incl. RTL Arabic; meditation partner centres in Bahrain, Jordan, Saudi Arabia, Oman, Indonesia and India.
- Shipped a product portfolio on one AI stack: **AI Chatbot Platform** (multi-tenant RAG, PDF/DOCX ingestion, real-time voice with citations) incl. "Nong Tang Tung" for the Department of Agricultural Extension Savings Cooperative; **Kaset Khunnatham** 24/7 agricultural advisory chatbot and marketplace; **Ruthi** AI land marketplace with ROI analysis; **Punpleng** AI song generation in 5 languages; **AI for Medical** — DICOM viewer with expert annotation and brain-CT intracranial-hemorrhage detection and segmentation.
- **SC Security** QR-code patrol and visitor-management system deployed at 25+ sites incl. Marriott, Novotel, SO/ Bangkok, Grande Centre Point, Holiday Inn Express and Toyota Pathum Thani.
- Funding and programs: TED Fund THB 1.5M and SIBB THB 300K (both delivered and closed), NVIDIA Inception member, Google for Startups Cloud credits THB 3.2M.
- Research and expansion: brainwave data collection from expert meditators; BMEiCON 2026 with KMITL; BME IIF 2026 Platinum + Gold; exhibitor at Thailand Wellness & Healthcare Expo 2026 (BITEC); Greater Bay Area — Shenzhen study visit (Nov 2025), EEC–GBA roadshow at the Royal Thai Consulate-General Guangzhou (Apr 2026), R&D talks with E-Hub Shenzhen (Sep 2026).

Senior MLOps & AI Engineer — Siametrics Consulting
Jan 2025 – Jul 2025

- Lead tech consultant and PMO for a commercial bank's hyper-personalised marketing platform; Stock Exchange of Thailand ATLAS automated listed-company AI information system.
- End-to-end MLOps for ML and LLM models on A100/H100, cloud and on-premise; CI/CD, model versioning, testing, cost and performance optimisation; mentored AI engineers and data scientists.

Senior Machine Learning Infrastructure Engineer (MLE + MLOps + DevOps) — VISAI.ai May 2022 – Dec 2024

- AI Connect (NT): designed and implemented the NVIDIA A100 infrastructure and microservices multi-cluster system. AI Cloud Platform (acp.visai.ai): LLM×MLOps and DevOps framework on hybrid cloud.
- Central Investigation Bureau NLP system: A100 infrastructure, MLOps/DevOps and model optimisation. POC products (Documate, Vocalog, Sommai); Docker and Kubernetes trainer for government engineers.

Chief Technology Officer — SEGUMO Nov 2021 – May 2022

- Product strategy, team workflow and MLOps automation; fully autonomous drone over 5G for agricultural and survey imaging with AI analysis.

Research Assistant — CMKL University (Medical AI) Aug 2019 – Aug 2021

- AI for Retinopathy of Prematurity with a children's hospital; AI for heart-sound analysis with KMITL Faculty of Medicine.

IoT Engineer — Thammasat University Mar 2020 – May 2020

- IoT kit collecting production data across 227 factories.

Research Assistant — BURN LAB, KMITL Aug 2015 – Aug 2019

- Acoustic-emission rail monitoring on FPGA with AI (2018), hybrid-car battery management system (2017), Kinect assistive shopping cart (2016), energy-generating sidewalk (2015).

AI Engineer Intern — Mitr Phol Group Jun 2018 – Jul 2018

- Vision system detecting sugar size and colour on conveyor belts; regional award across the group.

SPEAKING & TEACHING

- Docker and Kubernetes trainer — National Telecom (NT) and government agencies, 2023 – present
- Speaker, “Smart home for the elderly: non-intrusive innovation” — N Health, BDMS Network (2019) · “Design innovation for health” — Thai Health Promotion Foundation (2018) · “FPGA for Astronomy” — National Astronomical Research Institute of Thailand (2018) · Innovation study visit, Maker Faire UK (2017)

SKILLS

ML infrastructure & LLMOps	NVIDIA A100/H100 clusters, Kubernetes (CKA), Docker, hybrid cloud (GCP, Azure, Tencent, on-prem), CI/CD, model registry and versioning, serving and cost optimisation
Applied AI & agents	LLM applications, LlamaIndex, RAG, AI coding agents for full-stack delivery, TensorFlow, PyTorch, NLP, computer vision, medical AI
Biosignals & edge	EEG / BCI, HRV, rPPG, Doppler and 24 GHz radar, acoustic emission, DSP, FPGA / Zynq, BLE wearables, IoT, LoRa
Edge deployment	TensorRT models on NVIDIA Jetson AGX Xavier served via Triton on a small Kubernetes cluster, Infrastructure as Code; LLM legal assistant (Sommai) deployed with Kubernetes manifests and Kustomize
Product & backend	iOS / Android apps, Next.js, microservices, Java Spring Boot, real-time rooms, privacy-by-design
Leadership · Languages	CTO and founder roles, PMO for bank programmes, technical mentoring, Docker/Kubernetes trainer · Thai (native) · English (intermediate; fluent in technical English) · Chinese (basic listening)

AWARDS

- Platinum Award and Gold Medal with Jury Congratulations — BME IIF 2026, Fukuoka, Japan (Baojai, BCI wellness platform)
- Best Engineering Award, KMITL 2019 — non-contact vital-sign monitoring by radar (machine learning)
- Winner, Young Makers / Chevron Enjoy Science Thailand — non-contact fall detection with Kinect (THB 400,000 prize)
- Mitr Phol Group regional award — conveyor-belt sugar detection AI (2018) · Runner-up, EGATIF Thailand 2015 — electricity-generating sidewalk

GRANTS & PROGRAMS

- TED Fund — THB 1.5M grant, delivered and closed
- SIBB — THB 300,000 grant, delivered and closed
- NVIDIA Inception Program — member
- Google for Startups Cloud Program — THB 3.2M credits

PUBLICATIONS (IEEE / BMEICON)

- Segmentation of 24 GHz RF Respiration Signal Using GMM — BMEiCON 2019 (IEEE); neonatal respiration in an incubator, non-contact, 100% agreement with contact reference
- Using Doppler Radar to Classify Respiration by MFCC — ECTI-CON 2019 (IEEE); MFCC + DCNN, 85% accuracy
- Comparison of LoRa 915 MHz and 433 MHz on Distance Coverage in Thailand Area — ISMAC 2018
- Multimodal Assessment of a Center-Focused Meditation Protocol Using Frontal EEG Spectral Features and Wearable Physiology — BMEiCON 2026, oral presentation
- Cardiorespiratory Agreement and Complementary Data Yield of a Piezoelectric Mattress Sensor and a 60-GHz mmWave Radar — BMEiCON 2026

CERTIFICATIONS & EDUCATION

- Google Professional Machine Learning Engineer · TensorFlow Developer Certificate (2021) · Certified Kubernetes Administrator (CKA) · deeplearning.ai TensorFlow in Practice Specialization · AI for Medical Diagnosis · Super AI Engineer programme
- **KMITL** — Ph.D. student, Biomedical Engineering (in progress) · M.Eng. Electronic Engineering, 2019–2023 · B.Eng. Biomedical Engineering, 2015–2019