PANITAN KWANKAEW

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Founder & Managing Director, Uphasia AI

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Law student at Chiang Mai University with 2+ years building medical-AI systems, drawn to health-tech regulation by a family legacy in the Thai judiciary. I finished Computer and Robotics Engineering at 20 with first-class honours, then ran my own software company for two years before choosing law as a second degree. This is not a career change. It is pairing legal research with technical fluency, deploying clinical AI under GDCC governance with the Department of Medical Services, Ramathibodi and Rajavithi Hospital, and building legal-reasoning AI for Thai judicial use. Particular interest in the Civil and Commercial Code, intellectual property, and the regulatory frameworks now forming around artificial intelligence.

WORK EXPERIENCE

Current

Research Assistant, Cyber Law

Law and Technology Study Center, Faculty of Law, Chiang Mai University, To Assoc. Prof. Dr. Thotsapon Tasanapan, centre head

- Reviewing the **latest Cyber Law Act draft** on its technical substance: what it would require of businesses, what it would cost them, and where the gaps are.

Dec 2023 – Present

Founder & Managing Director

Uphasia Artificial Intelligence Co., Ltd., Chiang Mai / Bangkok

- **Strategic partnerships:** secured an application development contract for a multi-stakeholder programme involving the Department of Medical Services, World Hearing Forum, Ramathibodi and Rajavithi Hospital.
- **DevOps & compliance:** managed deployment on Windows Server via IIS under the governance and security standards of the Government Data Center and Cloud (GDCC), serving 500+ patients.
- **Speech Elephant:** built a naming-practice app using on-device ASR for secure, low-latency medical-grade speech exercises.
- Secured innovation funding from TED Fund, Ministry of Higher Education, while still an undergraduate.

2026, 2 months

Program Facilitator, internship placement

Zero to One accelerator, Startup accelerator cohort

- Served as programme facilitator on an internship placement, running **talent headhunting** and the **kick-off event** for the cohort.

Jul – Oct 2025

Fullstack & AI Engineer

Technology Promotion Association (Thailand–Japan), Bangkok

- **Strategic leadership:** led a 10-week AI initiative analysing the data infrastructure of a 100+ employee corporation, developing an implementation roadmap and presenting functional MVPs directly to the Board of Directors.
- **RAG & ETL architecture:** architected a full ETL pipeline using Haystack, n8n and Qdrant, ingesting public websites, SERP APIs and unstructured documents into a centralised Corporate Intelligence Portal on Supabase/PostgreSQL.
- Engineered and deployed three core AI MVP pipelines, an agentic workflow for equipment calibration pricelists and invoices, a LINE chatbot acting as an automated bookseller, and a B2B business-matching service using BGE-M3 embeddings.
- **On-premise infrastructure:** deployed privacy-compliant local LLMs on Apple Mac Studio using MLX, optimising Typhoon-Gemma-12B and GPT-OSS-20B for low latency.

Jan – Jul 2025

Team Lead & ML Engineer, House Lead

AIAT, Super AI Engineer Season 5, Bangkok

- House Lead for a 24-member team and Scrum Master across the full agile lifecycle, stand-ups, sprint planning, reviews and retrospectives.
- **LLM strategy:** architected a RAG reasoning layer (FAISS + Typhoon2-7B) for legal applications, prioritising interpretability and hallucination reduction over marginal leaderboard metrics.
- **Computer vision:** achieved 1st place in liver stiffness prediction with a custom EfficientNetV2-M and regression head; used GradCAM to expose black-box flaws, driving a redesign that moved the score from 2.2+ to sub-1.9.
- **MLOps:** directed high-throughput inference on Linux VMs, tuning concurrency with vLLM and ONNX for robust queuing without latency spikes.

Jun 2024 – May 2025

Python Developer

Goodday Film Company Limited, Bangkok, Remote

2024 – 2025

TECHBITE alumnus, assisted with programme facilitation

KX Knowledge Exchange, KMUTT, Bangkok

- **Helped facilitate two cohorts**, TECHBITE 5 and TECHBITE X Ajinomoto. The Ajinomoto cohort was my facilitation work only; Uphasia had no involvement in it.
- **2024, TECHBITE 5 alumnus.** Uphasia was selected as one of the 27 innovations KX launched from the programme.

SELECTED PROJECTS

2024 – Present

Uphasia ERP, Custom ERP and Odoo, cosmetics and food

Custom builds and Odoo implementations for medium enterprises in cosmetics and food, and for enterprise to public company conversion, where reporting and audit requirements change sharply.

`Odoo, Custom ERP, Cosmetics, Food, PCL conversion`

2025 – Present

Speech Elephant, Mobile speech-therapy app

With Speech-language pathologists at Siriraj and Ramathibodi Hospital

Helps people with communication disorders practise speech. AI runs on-device, so it is fast and no audio leaves the phone. Gamification turns repetitive therapy into something people keep doing. Government grant funded, validated past TRL 4.

★ 1st Runner-up, Rama Medical Innovations & Pitching Day 2025

`On-device ASR, Flutter, Mobile AI`

2025 – Present

ThaiDIN, Hearing pre-screening, in hospital use

With Department of Medical Services, Ramathibodi, Rajavithi, World Hearing Forum (WHO)

A web platform delivering the Digit-in-Noise Test, which measures the ability to hear numbers against competing noise. Deployed at two major public hospitals, Rajavithi and Ramathibodi, for fast and accessible early detection of hearing loss.

`Web Audio, GDCC, Public sector, thearwho.dms.go.th`

2026, research

Floodtir, Bangkok flood surveillance from existing CCTV

With 5-person research team, KMITL

Estimates water level from a single CCTV frame using YOLO detection, SAM segmentation and monocular depth, so flood depth comes from cameras already installed rather than new sensors.

★ BDI Hackathon 2026 Open

`YOLO, SAM, Monocular depth, Computer vision`

2023 – 2025

Uphasia ACD, Automated communication-disorder therapy

With Dept. of Communication Sciences and Disorders, Ramathibodi, TED Fund grant

Platform combining LLM and ASR for automated speech therapy across confrontational, convergent and divergent naming, repetition, auditory comprehension and fluency.

`LLM, ASR, TED Fund`

2026 **law.uphasia.co,** Exam preparation for Thai law students

Full-text searchable statute corpus with per-course study guides, a timed exam room, handwriting upload with OCR, and automated answer grading. Built and operated single-handedly., 4,087 page views, exam week, 854 distinct IPs, 132 answers submitted, 87% completion rate

`Next.js, SQLite FTS5, OCR, nginx, law.uphasia.co`

2026 **Chiang Mai burning analysis,** Policy data analysis

Analysed 48,764 VIIRS satellite hotspots across three burning seasons, overlaid against land-use layers. The result contradicts the common assumption that agricultural burning dominates., 94.2% in forest area, 0.8% agricultural land, 48,764 hotspots analysed

`NASA FIRMS, GIS, Python, lifehack.uphasia.co/burn`

2026 **sim.uphasia.co,** Air-cushion vehicle design tool

End-to-end ACV calculator covering hover gap, drag build-up, turn behaviour, budget and a buyable parts list. Includes a hand-written 3D renderer and DXF export straight into CAD.

`3-DOF physics, canvas 3D, DXF/STL, sim.uphasia.co`

AWARDS & RECOGNITION

2025 **1st Runner-up, Rama Medical Innovations & Pitching Day**
Ramathibodi Hospital, Speech Elephant

2025 **1st Place, Crime Charges Analysis Hackathon**
AIAT × BOL, Thai criminal charge classification with LLM, ONNX 0.014 s/req

2025 **1st Place, Liver Fibrosis Severity Prediction**
AIAT × Chulalongkorn, EfficientNetV2-M + regression head

2025 **1st Place, Demand Forecasting Hackathon**
AIAT × AXONS, EDA, ANOVA, PCA

2025 **2nd Place, Sale Forecasting & Product Assortment**
AIAT × CP Axtra

2024 **AI Development Certification**
Sony Group Corporation, Digital twins for multi-location AI development

2024 **Finalist, GeoHackathon**
GISTDA

2024 **Finalist, Medical AI Next Generation Accelerator**
TCELS Thailand, Uphasia

2024 **Top 4, Typhoon Hackathon**
SCB10X

2024 **Nominated in 3 categories, Thailand ICT Award**
ATCI, R&D, AI Technology of the Year, Inclusion

2024 **Semi-Finalist, MED X Engineering Hackathon**
AMSA Thailand × Chula Engineering

2023 **2nd Runner-up, Siriraj Hackathon**
Faculty of Medicine Siriraj Hospital

2023 **1st Runner-up, Capital Market Datathon**
SEC Thailand, Project Carbond

2023 **Sony Sensing IoT Award**
Sony Group Corporation, Forest-fire and audio sensing, presented at UNESCAP

2023	**Asia-Oceania Semi-Finalist, S-Booster** Cabinet Office, Japan, Project HEUZ
2023	**RPD Challenge** GISTDA, Multi-GNSS Asia, Cabinet Office Japan
2022	**Excellent Award, Travelution** Tourism Authority of Thailand
2019	**POSN Chemistry Olympiad Camp** POSN Foundation

EDUCATION

current	**Professional memberships** Permanent member, Technology Promotion Association (Thailand-Japan) and Artificial Intelligence Association of Thailand. Corporate member, AI Entrepreneur Association of Thailand, through Uphasia AI.
2025	**Super AI Engineer Season 5, AIAT** Certification on completion of the national AI engineering programme.
2026	**CMKL University, a Carnegie Mellon and KMITL joint institution** Certification of Internship Completion. IoT and embedded systems, cloud infrastructure, computer vision, signal processing, big data analytics, machine learning. Verifiable at credential.net
2026 – Present	**Chiang Mai University** Bachelor of Laws (LL.B.), English-proficiency portfolio admission
2025	**AIAT, Super AI Engineer Season 5** House Lead, House of Pangpuriye, AI engineering practice at TPA (Thailand–Japan)
2020 – 2024	**Bangkok University** B.Eng. Computer and Robotics Engineering, First Class Honours, GPAX 3.92
2019	**General Educational Development (GED)** Score 696/800
2015 – 2019	**Triamudomsuksa Nomklao School** Science–Mathematics gifted programme

SKILLS

Languages	Python, JavaScript/TypeScript, C++, C, Dart (Flutter)
AI / ML	PyTorch, scikit-learn, ONNX Runtime, vLLM, OpenCV, Sony NNC, Apple MLX
RAG & workflow	Haystack, Qdrant, FAISS, n8n, BGE-M3
Frontend	React, Next.js
Backend	FastAPI, Node/Express
Databases	PostgreSQL, MySQL, SQLite/FTS5, Firebase, vector DBs
Cloud & DevOps	AWS (Amplify, Lambda), GCP, Huawei GDCC, SiamAI, Docker, nginx, systemd
IoT	RTOS, GNSS, LPWA

LANGUAGES

Thai	Native
English	IELTS 7.0 (C1), Oct 2025
German	A1
Japanese	Beginner

Legal Interests	Civil and Commercial Code
	Intellectual property law
	AI acts and regulation