Thadoe Hein

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Early-career technologist with experience in AI/ML, cloud engineering, data integration, and application development. Skilled in building scalable cloud-native solutions, analyzing business requirements, and delivering data-driven insights. Strong problem-solving ability, excellent communication skills, and a growth mindset with continuous learning and collaboration. Adept at working in agile teams, integrating systems, and applying modern technologies to solve real-world client challenges.

EXPERIENCE

Machine Learning Engineer Intern , Language Understanding Laboratory (LU Lab)　　June 2025 - August 2025

- Designed and implemented data pipelines for multilingual NLP workloads, contributing to enterprise-grade data integration and analytics.
- Fine-tuned mT5-base for generative low resource QA; built training & evaluation pipelines using HuggingFace Trainer with EM/F1 benchmarking.
- Demonstrated the ability to handle ambiguous technical problems with structured, data-driven solutions.

AI Engineer , Intelligent Systems Laboratory (ISL)　　Jan 2024 – Oct 2025

- Designed and deployed AI solutions for NLP and Computer Vision in collaboration with academic researchers.
- Implemented a fire detection and alerting system using CNN-based video frame analysis for early hazard recognition, integrating OpenCV and TensorFlow into an automated monitoring pipeline.
- Developed a student advising chatbot using Retrieval-Augmented Generation (RAG) with external knowledge sources, enhancing factual accuracy and reducing hallucinations by providing students with accurate information.
- Mentored and collaborated with peers on implementing general-purpose information chatbot for the university website.

PROJECTS

Video Face Search System　　Oct 2025

- Built a video face search platform enabling users to upload a photo and retrieve all matching appearances across large-scale video footage, with a Next.js/TypeScript web app for seamless video management and sharing.
- Reduced video processing time by 90% by optimizing the machine learning pipeline for face detection and embedding generation, indexed in Qdrant Vector database for rapid similarity search.
- Delivered sub-second query latency on limited compute resources using AWS Lambda, ECS Fargate, and RDS, ensuring scalable cloud performance for media analytics and security use cases.

Document-Based Conversational AI Assistant　　Feb 2025

- Built and deployed an end-to-end document Q&A system for TXT/PDF/DOCX files using embedding-based retrieval.
- Implemented text extraction, chunking, and cosine-similarity search pipelines to improve answer accuracy.
- Used Firebase Firestore for database and deployed on Hugging Face Spaces for real-time querying.

Thai Language 7-11 Receipt Text Detection & Localization　　Feb 2025

- Designed a text detection and localization pipeline for Thai receipts using OpenCV, annotated by Azure AI Vision.
- Built training scripts for region detection, performed data augmentation, and evaluated IoU and precision/recall metrics.
- Demonstrated a strong grasp of object detection workflows, model evaluation automation, and annotation integration.
- Achieved Mean Per-Class Accuracy of 0.83 across eight classes, and 0.93 when excluding background noise

EDUCATION

Assumption University of Thailand　　**Bangkok, Thailand**
Bachelor of Science in Computer Sciences　　Jun 2022 – Oct 2025
Cumulative GPA: 3.7/4.0

TECHNICAL SKILLS

- **AI/ML & Domains:** Deep Learning (DL), Generative AI, Large Language Models (LLMs), Retrieval-Augmented Generation (RAG), Transfer Learning, Machine Learning (ML), Computer Vision (CV), Natural Language Processing (NLP)
- **Frameworks & Libraries:** PyTorch, TensorFlow, LangChain, HuggingFace Transformers, OpenCV, Streamlit, Scikit-learn, Next.js
- **Cloud & Infrastructure:** AWS (S3, Lambda, ECS Fargate, RDS), Azure, Docker, Microservices, Vector Databases, Firebase
- **Data & Analytics:** Data Processing, Data Mining, Data Analytics, Model Monitoring, Automation

Languages: English (Professional), Burmese (Native), Thai (Beginner)

CERTIFICATIONS

AWS Academy Graduate - Cloud Foundations　　**Mar 2024**