Tarit Witworrasakul

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TECHNICAL SKILLS

Languages: Python, Typescript, Dart, C++, Java
Libraries & Frameworks: NextJS, OpenCV, Huggingface, Pandas, NumPy, FastAPI, Streamlit, Gradio, Flutter, Arduino
Tools: Git, Linux, Docker, Docker Compose, Postman, Cloudflare, Firebase, Google Cloud Platform, Supabase, Vercel, ChromaDB, PostgreSQL

WORK EXPERIENCE

Software Developer Intern | Applicad Public Company Limited – Bangkok, Thailand   *June – August 2024*
- Developed a full-stack real-time face recognition web application using Next.js, enabling customer identification
- Built a backend service in Python with FastAPI for face vector comparison using ChromaDB, integrated with a PostgreSQL database for storing User Data, and linked it to the existing internal customer database
- Implemented an Email OTP authentication system using NextAuth Credentials Provider, with a custom Python backend for email delivery via SMTP and credential validation and utilized Next.js middleware for role separation
- Deployed the application on an on-premises Ubuntu server using Docker and Docker Compose

TECHNICAL PROJECTS

Software Developer | UBC Uncrewed Aircraft Systems Engineering Design Team ([GitHub](https://github.com))   *September 2023 – Present*
- Developed Object Detection, Classification, and Localization software for finding targets from a drone with a team of four
- Reduced time to create training dataset by implementing dataset generator using OpenCV and imgaug
- Created inference pipeline integrating tiled inference, object detection, and OCR for processing captured image

PERSONAL PROJECTS

Ring Notify | Typescript, React Native, Firebase Cloud Messaging, Cloudflare Workers   *October 2023 – Present*
- Created a mobile app that uses call screen to notify users of urgent alerts, using React Native and React Native CallKeep
- Implemented REST APIs for sending notification from IOT devices through Firebase Cloud Messaging using Honojs and deployed to Cloudflare Workers using Github Actions

TH-EN Machine Translation | Python, Huggingface, Gradio ([GitHub](https://github.com))   *April – July 2023*
- Finetuned No Language Left Behind model for Thai to English machine translation task using SCB-1M and OPUS dataset
- Compared performance of finetuning mT5 model and NLLB using Huggingface Trainer full-finetuning and LoRA
- Achieved 27.37 BLEU Score on IWSLT 2015 test set from full-finetuning NLLB-600M model
- Created demo using Gradio and deployed to Huggingface Space

AWARDS & COMPETITIONS

Honorable Mention (Sustainability and Environment), nwHacks 2024, Backend Developer | Node.js ([GitHub](https://github.com))   *January 2024*
- Developed WasteWizard, a waste tracking and management platform for hospitals using HTML, CSS, and JavaScript
- Implemented REST APIs using Express.js and MongoDB with Mongoose ORM for saving bin cleaning logs and providing data to admin dashboards

3rd Place, BOTNOI Chatbot Marahackathon 2022, Software Developer | Python, FastAPI, Firebase ([Github](https://github.com))   *March – May 2022*
- Designed and deployed a chatbot on the Botnoi Chatbot Platform to assist students, faculty, and visitors
- Developed a login system using LINE Front-end Framework (LIFF) to enable role-based access, providing customized features for students and faculty
- Built and integrated backend services to store and manage user data with FastAPI, Firebase Storage, and Firestore, deploying the solution on Google App Engine

2nd Place, Thailand National Software Contest, Team Leader | Flutter, Python, FastAPI ([GitHub](https://github.com))   *August 2021 – March 2022*
- Developed and published Domacod, a mobile app for image indexing and text searching, on Play Store and App Store
- Finetuned YoloV4-tiny to detect custom objects using a subset of the COCO dataset and deployed on mobile device using TensorFlow Lite in Dart isolate to ensure UI smoothness
- Developed backend for OCR using GCP Vision API and text classification using finetuned BERT model and deployed to Google App Engine

EDUCATION

University of British Columbia – Vancouver, BC   *September 2023 – May 2027*
Bachelor of Science – Computer Science (Outstanding International Student Award)