Liaw Hang Sheng *Fullstack developer | AI enginner*

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Professional Experience

Nedex Group 11/2024 – 02/2025

Web Developer Intern

- Gained hands-on experience in full-stack web development using Laravel, Filament, React.js, and Vue.js.
- Designed and implemented a third-party API extension, with thorough testing conducted using Postman.
- Implemented end-to-end features on existing projects with optimized code.
- Diagnosed and resolved numerous production bugs in the “previous projects, significantly improving app stability.
- Designed and implemented frontend interfaces using React.js, with supporting tools such as TypeScript, CSS Modules, and axios for API integration.

Education

Bachelor of Computer Science in Data Science 07/2022 – 06/2025

Monash University Malaysia: *CGPA*: *3.63/4.0* (*current result*)

Projects

TheTrendyClub - Full Stack E-Commerce Web Application

React, Node.js, Express, MongoDB, Stripe, Razorpay, Cloudinary

- Designed and developed a full-stack e-commerce platform with customer storefront and admin dashboard, supporting product browsing, cart management, and secure checkout.
- Built RESTful APIs for authentication, product/order management, and payment integration using Node.js, Express, and MongoDB.
- Implemented JWT-based authentication/authorization for secure access.
- Developed responsive frontends with React, Vite, Tailwind CSS, and enabled media storage via Cloudinary.
- Automated order tracking and inventory management, improving operational efficiency.
- Deployed on Vercel with Git-based version control and modular code organization for scalability and maintainability.

AetherAI – Full Stack AI SaaS Platform

React, Node.js, Express, PostgreSQL, Clerk, Tailwind CSS, Cloudinary, OpenAI, Gemini, ClipDrop, Vercel

- Built a full-stack SaaS platform enabling AI-powered content generation, image editing, and resume review using OpenAI, Google Gemini, and ClipDrop APIs.
- Developed a modern frontend with React 18, Vite, Tailwind CSS v4, integrating Clerk for authentication and subscription management.
- Engineered a scalable backend with Node.js, Express, and PostgreSQL, providing RESTful APIs for AI tasks, image processing, and user management.
- Deployed on Vercel with CI/CD pipelines, environment management, and production-ready configuration.
- Implemented secure file handling, JWT authentication, and usage-based access control for free and premium users, following SaaS best practices.

Multimodal Video Sentiment & Emotion Analysis SaaS

PyTorch, AWS SageMaker, Next.js, React, Tailwind, Auth.js, T3 Stack

- Developed and deployed a multimodal deep learning model that predicts sentiment and emotion from video input by fusing text, audio, and visual features.
- Utilized the MELD (Multimodal EmotionLines Dataset) as the primary dataset for training and evaluation, enabling robust, real-world emotion and sentiment recognition from conversational videos.
- Automated feature extraction pipelines for speech transcription (Whisper), video frame processing (OpenCV), and audio feature engineering (torchaudio, ffmpeg).

- Trained and validated the model using PyTorch, leveraging BERT for text, R3D-18 for video, and custom CNNs for audio encoding.
- Packaged and deployed the model as a scalable REST API using AWS SageMaker Endpoints, with S3 for data storage and IAM for secure access.
- Built a SaaS platform with Next.js, React, Tailwind CSS, and Auth.js, enabling users to upload videos and receive real-time predictions via the deployed API.

Audio CNN
PyTorch, torchaudio, librosa, Modal, FastAPI, TensorBoard, Node.js, Next.js, React
- Developed an end-to-end deep learning system for environmental sound classification using a custom ResNet-based CNN, achieving 84.25% on the ESC-50 dataset.
- Automated data preprocessing, augmentation (SpecAugment, mixup), and model training with PyTorch, torchaudio, and cloud GPU infrastructure via Modal.
- Built a scalable FastAPI inference service and integrated a Next.js web interface for real-time audio upload, classification, and feature visualization.
- Implemented experiment tracking and model monitoring with TensorBoard, ensuring reproducibility and maintainability through modular code and clear documentation.

Patient Management System – Microservices Architecture
Java, Spring Boot, Docker, Kafka, gRPC, REST, LocalStack
- Engineered a distributed patient management system using Java Spring Boot microservices, including Patient, Auth, Billing, Analytics, and API Gateway services.
- Developed RESTful and gRPC APIs for patient, billing, and authentication workflows, enabling secure and efficient inter-service communication.
- Integrated Kafka for real-time event-driven analytics and asynchronous data processing.
- Implemented JWT-based authentication and authorization for secure access control across services.
- Containerized all services with Docker, supporting scalable and consistent deployments.
- Automated local AWS service emulation and infrastructure provisioning using LocalStack and shell scripts.
- Ensured system reliability and maintainability with comprehensive unit and integration testing.
- Applied modular code organization and environment-specific configuration for production readiness and scalability.

Awards

Monash Coding League Top 10 04/2024
Monash University Malaysia Tech Club

Monash Commendation 2024 06/2024
Faculty of Information Technology

Varsity Hackathon Top 25 03/2025
University Sains Malaysia

Skills

Programming Languages
Python, Java, PHP, HTML, CSS, JavaScript, TypeScript, R

Tools & Platform
Git, GitHub, GitLab, Docker, Kubernete, Google Cloud, AWS, CI/CD (GitHub Actions, GitLab CI), Tableau

Big Data & Messaging Systems
Apache Kafka, Apache Spark, Hadoop, Redis

Frameworks & Libraries
Laravel, Spring, Flask, FastAPI, Django, React, Next.js, Node.js, Express.js, Tensorflow, Pandas, Pytorch

Databases
MySQL, PostgreSQL, MongoDB, Firebase, SQLite