Shu-Yu (Moore) Lin

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EDUCATION

University of Washington Seattle, USA
MS in Electrical and Computer Engineering Expected June 2026
Coursework: AI for Mobile Robots, Database Systems, Tiny ML, Mobile App

National Central University Taoyuan, Taiwan
BS in Computer Science & Information Engineering | GPA: 3.8 Sept. 2019 - June 2023
Coursework: Artificial Intelligence, Natural Language Processing, Computer Vision

SKILLS

Language & Tool: Python, Java, C/C++, Kotlin, JavaScript, Dart, SQL, Git, Docker
Library & Framework: Pytorch, Tensorflow, Keras, Scikit-Learn, OpenCV, React, MSSQL, Flutter, ROS
MLOp: AWS, Azure, MLflow, ONNX, OpenVINO

WORK EXPERIENCE

VIA Technologies Inc. Taipei, Taiwan
Machine Learning Engineering Intern Mar. - Aug. 2024

- Developed a key-feature extracting system with a unified vision-language model, capturing 10+ coarse-grained features in driving images, replacing 5+ specialized models, greatly reducing memory occupation on limited devices.
- Achieved real-time performance of 21 frames per second in M810, an edge device powered by a Qualcomm chip, utilizing ONNX and Qualcomm SNPE tools to transition, shrink and quantize model for faster inference speed.
- Built automated data annotation pipeline to curate 100k+ labeled images, boosting labeling efficiency by 200%+.

Web Intelligence & Data Mining Lab, NCU Taoyuan, Taiwan
Undergraduate Student Researcher Sept. 2021 - June 2023

- Designed a transformer-based model for forecasting of global total electron contents (GTEC), a critical indicator of the space environment, achieving state-of-the-art global predictions, resolving 4 hours latency issue in real-time GTEC data caused by transmission and computing with an error rate less than 5%.
- Devised transformer-based hierarchical model for rhetorical role labeling from legal judgments, a sentence-level classification task, introducing a novel BERT fine-tuning method for hierarchical semantic structure.
- Secured scholarship from National Science and Technology Council, the highest research and technology authority in Taiwan, initializing research project overviewing special tempo prediction methodologies.

PROJECTS

KazumaSpeak - Japanese Learning App June 2025

- Developed Android application implementing communication-first learning methodology with pronunciation practice, grammar discovery, and reverse translation features.
- Integrated speech recognition APIs, audio processing, Room database, and location services using MVVM architecture.

TinyML-Based Real-Time Player Detection System June 2025

- Designed, compressed and deployed a TinyML object detection model on Raspberry Pi 4B to identify player characters in Counter-Strike 2, achieving sub-150ms inference and efficient on-device processing.

Autonomous Self-Driving Wheelchair Oct. - Dec. 2024

- Led hardware integration of LiDAR and camera systems, developing ROS-based sensor fusion architecture and URDF models for autonomous wheelchair platforms.
- Conducted comparative analysis of LiDAR odometry algorithms, successfully implementing optimal indoor navigation.

Autonomous Robot Car Oct. - Dec. 2024

- Built an autonomous robot car capable of navigating without collision, integrating localization, control, and planning modules, implementing particle filter for localization, PID and MPC for control, and Lazy A* for path planning.

Legal Assistant Chatbot Sept. 2021 - May 2022

- Developed a legal assistant chatbot to answer Taiwanese criminal law inquiries, using BERT, an early large language model, and Selenium for web scraping, offering handy legal assistance and up-to-date legal information via LINE chat.