SEAN (SZ-SHIUAN) KAO

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EDUCATION

National Chung Cheng University
master of Communications Engineering - **NEAT Lab** Sep 2024 - Present

National Chung Cheng University
bachelor of Communications Engineering Sep 2020 - Jun 2024

WORK EXPERIENCE

National Chung Cheng University Sep 2024 - Present
Teaching Assistant: **Embedded Operating Systems**

- Developed instructional materials for **FreeRTOS**, provided technical support during lab sessions, and assisted students in resolving issues encountered in their experiments.

National Chung Cheng University Feb 2024 - Jun 2024
Teaching Assistant: **Networked Embedded Systems**

- Responsible for reading academic papers and organizing the paper archive to support course materials.
- Organized lab meetings and managed daily tasks, demonstrating strong leadership.

AWARDS

Honorable Mention in National Chung Cheng University **Programming Competition (PDF)** 2020

PROJECTS

SAE J1772-Based EV and EVSE Simulator (In Progress) (GitHub) | Skills: Embedded Systems, EV Technology, FreeRTOS, MQTT

- Developing an EV (Electric Vehicle) and EVSE (Electric Vehicle Supply Equipment) simulator based on the SAE J1772 standard using the ESP32 board and peripheral hardware to simulate the communication process & protocol between electric vehicles and charging stations.

Poker Card Image Classification (Kaggle Competition) (GitHub) | Skills: Machine Learning, CNN

- Participated in a Kaggle competition, using Convolutional Neural Networks (CNN) to classify poker card images.
- **Ranked 5th out of 21 teams in class, achieving 94% accuracy.**

Innovative Communication Method Using Colors (Video, GitHub) | Skills: Embedded Communication Interfaces, PWM

- Developed an **asynchronous communication** system that uses different colors to transmit information.
- The system uses predefined bit timing for data transmission and is deployed on two ARM-based NUC140 development boards.
- **Achieved 100% accuracy for transmitting 50+ characters.**

TECHNICAL SKILLS

Language: C/C++, Python, MATLAB

Frameworks: PyTorch, TensorFlow, OpenCV

Operation system: FreeRTOS

Embedded Systems & Hardware: MCU, Eagle PCB, MQTT, Communication Interfaces (SPI, I^2C, UART etc.)

COURSEWORK

- Microprocessor A
- Networked embedded system A
- Electric Circuits A+
- Electronics A
- Machine learning A
- Python language & deep learning A+
- Signal and systems A+
- Probability A