

# SHU-WEN YEH

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Full Stack Engineer and Computer Engineering graduate student (4.0 GPA) with 5+ years of experience at TSMC and Cathay Life Insurance. Expertise in distributed systems, DevOps, and technical leadership. Seeking software engineering/embedded software internship for Summer 2026.

## EDUCATION & QUALIFICATIONS

**Arizona State University**, Tempe, Arizona  
*Master of Science in Computer Engineering*

Aug 2025 - May 2027  
Cumulative GPA 4.0/4.0

**National Yang Ming University (NYMU)**, Taipei, Taiwan  
*Master of Science in Biomedical Informatics*

Feb 2017 - Aug 2018

**National Cheng Kung University (NCKU)**, Tainan, Taiwan  
*Bachelor of Business Administration in Statistics*

Sep 2010 - Jun 2014

## PROJECTS

**Embedded Machine Learning Projects** - Arduino BLE 33 Sense

Fall 2025

- Developed real-time posture detection system in C++ and Python, classifying 5 body positions using IMU sensor fusion (accelerometer, gyroscope, magnetometer) and TinyML model deployment for real-time inference with monitor visualization.
- Implemented voice-activated LED control system using C++ and Python with keyword spotting for 5 spoken commands, training ML model in Python and deploying to Arduino for edge inference with real-time hardware response.

## PROFESSIONAL EXPERIENCE

**Taiwan Semiconductor Manufacturing Company Limited, TSMC**  
*Senior Engineer, Technical System Integration Department*

Hsinchu, Taiwan  
Oct 2021- Sep 2024

- Worked as Full Stack Engineer, developed enterprise cloud storage platform serving 30,000+ employees across all TSMC fabs on 4-person team, replacing fragmented legacy file servers with Azure CI/CD pipeline within 6 months.
- Architected distributed carrier management system as Tech Lead for 6-person team using Agile/Scrum, tracking wafer carriers across TSMC fabs with federated architecture ensuring fault tolerance.
- Designed full-stack solution with Spring Boot/Kotlin backend, Next.js/React/TypeScript frontend, and MariaDB, integrating Keycloak for enterprise-wide authentication and SSO. Established Azure CI/CD pipeline and Prometheus monitoring for real-time analytics and role-based access control across distributed applications.
- Implemented WebDAV protocol enabling in-browser Office editing, multi-format preview (PDF/Office /Markdown/video), version control, and role-based access using React/TypeScript/fp-ts and Spring Boot/Kotlin with Mojito analytics.
- Established training program for 50+ engineers in Functional Programming using TypeScript/fp-ts, serving as onboarding mentor and receiving TSMC Distinguished Teacher Award for code quality improvements.

**Cathay Life Insurance**  
*Senior Specialist, Life Insurance Information Department, Programming Section*

Taipei, Taiwan  
Jan 2019 - Feb 2021

- Worked as Full Stack Engineer, developed travel insurance system for airport operations with Canvas-based digital signature (jSignature) and Java backend, streamlining customer enrollment and eliminating manual paperwork.
- Developed AI-powered OCR web service using Python Flask, LSTM, OpenCV, and Tesseract-OCR to automate medical diagnosis document processing, achieving 90% extraction accuracy and reducing manual data entry by 80%.
- Led programming team in task allocation and technical problem-solving, ensuring on-time delivery of 6 system modules while mentoring 4 junior developers in Java/JavaScript.

## HONORS & AWARDS

- TSMC Distinguished Teacher Award - Training 50+ engineers in Functional Programming (Dec 2022)
- TSMC Special Award (Outstanding Employee) - Enterprise cloud storage development (Dec 2022)

## TECHNICAL SKILLS

**Programming Languages:** C, C++, Java, Kotlin, Python, TypeScript, JavaScript, SQL, R, Bash, HTML5/CSS3

**Frameworks & Tools:** Spring Boot, Node.js, Next.js, React, Arrow-kt, fp-ts, Keycloak, TensorFlow Lite, OpenCV, Cypress, Git, Docker, Kubernetes, Azure, MongoDB, MariaDB, MySQL, Prometheus, Grafana, Flask, Fastify

**Embedded & ML:** Arduino BLE 33 Sense, TinyML, Edge ML, IMU Sensors, Real-time Inference

**Development:** Full-stack Development, Front-end Development, Back-end Development, Software Testing, Performance Testing, Bug Fixing, Design Patterns, Data Structures & Algorithms, System Design, DevOps, Agile/Scrum, Communication Skills, System Architecture, Systems Integration

**Core Competencies:** Object-Oriented Programming, Computer Architecture, Operating Systems, Embedded Systems, Computer Networks, Functional Programming, REST API, WebDAV, Domain-Driven Design