

Shun-Wei Wang

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SUMMARY

Embedded software engineer with 12 years of experience where software meets hardware: Android board support packages and server BMC firmware, automated production lines for automotive and consumer devices, and HMI design tooling. Track record of turning manual factory processes into measured gains — 50% faster sensor calibration, 10% higher line throughput, and an unmanned SiP production line. Now on-site at MediaTek, profiling AI inference performance and automating test infrastructure for next-generation SoC programs — and pushing further into edge AI and model optimization.

EXPERIENCE

Yunjing Technology

Dec 2025 – Present

Software Engineer (on-site at MediaTek)

Taiwan

- Measured AI inference performance on the MT8894 platform and traced the bottlenecks, driving a **15–20% overall performance gain** that met the customer's requirement.
- Automated deployment of the system suspend/resume test environment for the NVIDIA N1X program, **cutting setup time from 30 minutes to 15**.
- Maintain and develop Yocto Project builds — the layers, recipes and toolchains that produce custom embedded Linux images.

Tech: Yocto Project, BitBake, Embedded Linux, AI inference profiling, Python, C/C++

Weintek

May 2025 – Dec 2025

Senior Software Engineer

New Taipei, Taiwan

EasyBuilder X — HMI design software

- Built multi-format project file import/export, letting customers migrate existing screen projects into EasyBuilder X instead of rebuilding them by hand.
- Implemented 2D barcode support and HMI runtime language switching.
- Ran requirement analysis and technical support directly with customer projects, feeding field problems back into the product.
- Owned software testing and quality assurance for the features shipped.

Tech: Qt/C++, Git, CI/CD, TDD

Garmin

Jan 2018 – May 2025

Software Engineer

Taoyuan, Taiwan

BMW MGU22 — automotive infotainment production line

Mar 2020 – May 2025

- Expanded UDS diagnostic coverage in the line test software by roughly 80%, replacing manual diagnostic steps with automated ones.
- Parallelized the test flow and raised line throughput by 10%.
- Delivered an unmanned production line for SiP module manufacturing.
- Integrated Vector CANoe into the test stack, automated system software installation, and brought up and controlled Alfamation Quadmode test equipment.

Tech: C++ (Borland), Linux, CAN bus, ISO 26262

Garmin Solar Instinct 2 — smartwatch production line

Feb 2019 – Mar 2020

- Cut production-line sensor calibration time by more than 50%.
- Introduced YOLOv3 visual inspection for flex-cable assembly, driving operator assembly errors to 0% — self-taught the deep learning stack to do it.

Tech: YOLOv3, deep learning, sensor calibration, Python

Paddle Fish Trolling Motor — production line

Jan 2018 – Feb 2019

- Automated detection of motor layer shorts and output-deficiency defects that were previously caught by hand.
- Sped up Bluetooth chip testing by 5%.
- Built the control software for manufacturing line equipment, plus motor performance and Bluetooth stability test software.

Tech: C++ (Borland), SQL, logic analyzer, dynamometer

Insyde Software
Software Engineer

Nov 2014 – Nov 2017
Taipei, Taiwan

ASpeed AST2500 — server BMC firmware

Jul 2015 – Nov 2017

- Refactored Redfish error handling and improved its performance by 10%.
- Designed the IPMI user password authentication mechanism.
- Built password-complexity enforcement for server security, and server performance test tooling on top of perf and BPF.
- Automated Supervyse 3.0 web testing with Python and Selenium.

Tech: C, Linux kernel, perf, BPF, Selenium, Git

Acer Iconia Talk 7 — Android board support package

Nov 2014 – Jul 2015

- Customized the Radio Interface Layer (RIL) and ported Linux device drivers for the target hardware.
- Fixed an application crash on entering Quick Mode.
- Added SIM-removal user notification and long-press “1” carrier customer-service dialing.
- Debugged Android Compatibility Test Suite (CTS) failures.

Tech: Android, C++, Java, Linux kernel, Git

SKILLS

Languages: C, C++, Python, Java, Shell, JavaScript

Embedded: Yocto Project / BitBake, Embedded Linux, Linux kernel, Android BSP, server BMC (IPMI, Redfish), CAN bus, ISO 26262

Tools: Git, CMake, CI/CD, TDD, GDB, perf, BPF, Vector CANoe, Selenium, logic analyzer

Applied: Qt/C++ desktop software, HMI design, computer vision (YOLO), production-line automation

SIDE PROJECTS

- **StockRebalance** — a Qt desktop tool that calculates the buy/sell shares needed to rebalance portfolio holdings, built on libyahoofinance. github.com/awe31402/StockRebalance
- **libmodernrobot** — a lightweight C++ library for the Denavit–Hartenberg robot arm model, with forward and inverse kinematics. gitlab.com/awe31402/modern_robotics

CURRENTLY STUDYING

- **Linux kernel internals** — open notes covering 340 questions across memory management, scheduling, concurrency, interrupts and crash-dump analysis, plus a practical guide to the crash tool. github.com/awe31402/linux-interview
- **Edge AI and model optimization** — quantization, pruning, ONNX and TFLite deployment; MIT efficient-ML course work and ten chapters of runnable serving code. github.com/awe31402/model-light-weight-code

EDUCATION

National Taiwan University
M.S., Institute of Applied Mechanics

2012 – 2014

National Taiwan University
B.S., Civil Engineering

2007 – 2011

CERTIFICATIONS & LANGUAGES

Certifications: ISO 26262 (functional safety), JLPT N1, TOEIC 750

Languages: Chinese (native), English (professional), Japanese (JLPT N1)