

Alex Tsou

Senior Test Automation / System Validation / ATE / Technical FAE

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PROFESSIONAL SUMMARY

21+ years across test automation, system validation, FAE, Camera / AI validation, and ATE engineering. Builds repeatable validation workflows that connect requirements, device and instrument control, evidence collection, PASS / FAIL criteria, regression, and engineering closure.

CORE COMPETENCIES

- Test automation architecture and reusable validation frameworks
- System, firmware, device, instrument, and HW / SW integration validation
- Evidence-driven reproduction, debug, root-cause isolation, and regression
- ATE production test, equipment communication, traceability, and result handling
- Cross-functional coordination, technical FAE support, and issue closure

PROFESSIONAL EXPERIENCE

FIH / 鴻海富智康

2022/09 - 2026/04
3 years 8 months

Technical Manager / Hands-on Test Automation Lead
Managed 4 team members

- Automation-platform integration with Python, Shell, PowerShell, Jenkins, GitLab CI, and Docker.
- System and firmware validation across EVT / DVT / PVT, driver, kernel, stability, and regression workflows.
- CAN / touch-panel validation, eMMC reliability, and 5G / Wi-Fi performance analysis.
- HW / SW debugging, log analysis, root-cause isolation, and cross-functional engineering support.

Novatek Microelectronics

2013/10 - 2022/07
8 years 10 months

Principal Software Engineer / Test Automation & SoC Validation

- One continuous employment period spanning Wi-Fi FPGA / chip validation, Camera SoC / SDK automation, AI / NPU validation, and Audio AI validation.
- Python automation for devices and SCPI instruments, including Power Supply, Oscilloscope, and VeriWave.
- Camera SoC validation with pytest, SDK / CGI, UART, codec, stress, memory, firmware, and power-cycle coverage.
- AI / NPU pattern generation and execution with output.bin / golden.bin numerical comparison and regression reporting.

PROFESSIONAL EXPERIENCE

TPV Technology

2008/09 - 2013/10
5 years 2 months

F&E Engineer

- Customer issue clarification, reproduction, debug-log collection, and technical closure.
- Android TV functional, application, OTA, streaming, stress, and CTS / GTVS validation support.
- Python ADB, UIAutomator, Appium, Monkey / MonkeyRunner, JMeter, and Robot Framework automation.

Compal Electronics

2002/07 - 2008/09
6 years 3 months

Software Design Validation Section Manager

Managed approximately 13 team members

- Software / system integration, test planning, SOP, field trial, wireless, WHQL / GCF, BIOS, and driver validation.
- Project and test management, resource allocation, vendor coordination, and cross-functional communication.

SELECTED TECHNICAL PROJECTS

AI / NPU Validation Pipeline

Pattern generation -> Pattern.bin -> Simulator / FPGA / Target -> output.bin / golden.bin comparison -> bit-accurate or numerical validation -> PASS / FAIL -> regression report. Scope covers validation, not AI model architecture, compiler architecture, or the complete training pipeline.

ATE / Robot / ESD Integration

ATE-side state-machine orchestration with traceable register and pulse sequencing: 1027 Robot -> ATE feedback (ATE read-only), 1028 ATE -> Robot parameter / motion pulse, and 1029 ATE -> Robot discharge-complete pulse. Includes timeout, abnormal handling, logging, and explicit completion-evidence boundaries.

F&E / Customer Issue Reproduction & RCA

Customer symptom -> environment alignment -> controlled reproduction -> evidence collection -> HW / FW / SW isolation -> root cause -> fix verification -> regression -> closure.

TECHNICAL SKILLS

Python Test automation, instrument control, log parser, AI / NPU validation	C# ATE, production test, Windows automation, equipment integration
Automation pytest, Selenium, Playwright, Robot Framework, Appium, UIAutomator, Postman	DevOps Jenkins, GitLab CI, GitHub, Docker, regression and report integration
Validation ATE, Camera, AI / NPU, Audio AI, Wi-Fi, 5G, CAN, Android / Linux	Tools / Interfaces SCPI, DMM, Power Supply, Oscilloscope, VeriWave, Wireshark, iPerf, Jira, Confluence

EDUCATION

National Cheng Kung University

Department of Electrical Engineering
Bachelor's Degree | 1996/09 - 2000/06

ENGINEERING DEBUG METHODOLOGY

Requirement -> Reproduce -> Evidence Collection -> HW / FW / SW Isolation -> Root Cause -> Fix Verification -> Regression -> Closure

PORTFOLIO & CONTACT

Technical portfolio, detailed case studies, and current contact options: alextsou.com. Professional email: alextsou888@gmail.com.