Jo-Yao Hsu (JY Hsu)

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Professional Summary

Results-driven **Senior Software & Firmware Engineer** with 8+ years of end-to-end development experience across full-stack applications, BIOS/UEFI firmware, and SoC security infrastructure. Proven track record of architecting scalable CI/CD pipelines, developing robust internal tooling, collaborating across diverse engineering teams at Google, and leading global cross-functional teams at Dell. Leverages a deep software engineering background to build advanced, AI-driven automation and debugging frameworks.

Professional Experience

Google | *Software Test Automation Engineer*   Sep 2025 – Present
- **Security Infrastructure Development:** Developed and architected core software frameworks for SoC firmware security validation, creating scalable automation to detect pre-release firmware vulnerabilities.

Dell Technologies | *Senior Software Firmware Engineer*   Aug 2021 – Aug 2025
- **BIOS/UEFI Development:** Co-developed the Design for Diagnosis (D4D) feature in C/UEFI to standardize telemetry logging and compression, expanding BIOS debugging log capacity by 15x and enabling future AI diagnostics.
- **Telemetry Infrastructure Modernization:** Built Python/C-based OS tools to extract, decode, and standardize fragmented customer debug logs (TSRs), overcoming legacy limitations to slash manual error analysis time and lay the clean data foundation for future AI diagnostics.
- **Shift-Left Infrastructure:** Led a 20-member global cross-functional team to architect a 200+ case automated testing framework, reducing post-release BIOS defects across 10+ platforms through Shift-Left daily/quarterly builds.
- **CI/CD Pipeline Engineering:** Engineered a scalable cloud CI/CD pipeline (Jenkins, Docker) spanning compilation, signing, and ODM integration, boosting automation adoption across 8+ teams via intuitive UI dashboards.
- **Awards & Innovation:** Won the 2025 ISG Hackathon Award by proposing an AI RAG genie that cut hardware setup time by 80%; earned FY23/FY25 Game Changer Awards for transformative automation initiatives.

CECI Engineering Consultants, Inc. | *Technical Leader & Software Engineer*   Jul 2018 – Aug 2021
- **Full-Stack Leadership:** Directed a 5-person Agile development team to architect Surface Deformation and Urban Planning systems, successfully delivering 15+ large-scale web solutions for critical infrastructure projects.
- **Enterprise CI/CD Architecture:** Architected a complete end-to-end CI/CD system that overcame complex network boundaries, highly reducing manual steps, slashing release time by 90%, and ensuring strict delivery quality between internal engineers and external contractors.
- **System Stability:** Integrated automated third-party API testing directly into daily CI/CD workflows, ensuring highly stable, error-free product releases to enterprise clients.
- **Database Optimization:** Overhauled daily Oracle database synchronization workflows and implemented address fuzzy matching, boosting spatial data fetching speed by 50% and spatial accuracy by 7%.

Education

National Taiwan University | *MS in Civil Engineering (GIS and Surveying)*   Sep 2016 – Jun 2018
- Graduated with 1st Class Honors. Developed error-adjustment software utilizing GUI & DLL, reducing operational costs by $3,000 USD annually.

National Chengchi University | *BS in Geomatics, Land Economics*   Sep 2012 – Jun 2016
- Graduated with 1st Class Honors.

Skills, Certifications & Awards

- Core Technologies: C, Python, JavaScript/TypeScript, C#, SQL, Node.js, React.js, .NET, UEFI/BIOS, Linux.
- DevOps & Cloud: Git, Jenkins, Docker, AWS, DevSecOps, SonarQube, Vault, CI/CD Architecture.
- Certifications: AWS Certified Solutions Architect, PMP Certification Training, Professional Engineer Certificate – Survey, Certified Procurement Professional.
- Awards: 1st Place Water OpenData IoT; 2024 & 2020 iTHelp Keep Sharing Award; Hacktoberfest 2024.
- Open-Source & Languages: Maintainer of hugo-toha theme; Contributor to github-readme-stats. Fluent in English and Native in Chinese.