

Jo-Yao Hsu (JY Hsu)

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PROFESSIONAL EXPERIENCE

DELL Technologies

Senior Software Firmware Engineer

Hybrid, Taipei, Taiwan

August 2021 - Present

Automated CI/CD Workflow Implemented for Firmware Developing, Testing and Releasing as an SDET

- Led 20-member cross-functional teams across 8 teams, 4 companies, and 3 countries to develop firmware testing automation systems, covering 200+ test cases, a pivotal Dell implementation project in recent years.
- Implemented automated daily and quarterly BIOS builds and testing across 10+ platforms, enabling "Shift-Left Testing", improving stability, and significantly reducing pre-release costs and post-release BIOS errors.
- Designed, developed, and implemented a scalable CI/CD system for feature and integration automated testing, including BIOS cloud build, firmware signing, ODM build, and auto-release features, enhancing efficiency and reliability.
- Developed intuitive interfaces for automation systems, improving accessibility and usability for 8+ teams and stakeholders.
- Established the firmware automation ROI score to prioritize tasks based on criticality, impact, lifespan and frequency.
- **DELL FY23 Game Changer Award** for driving massive progress with a transformative BIOS automation workflow, fostering team and ODM ownership, and accelerating firmware test case integration, significantly enhancing development efficiency.
- **2025 DELL ISG Hackathon Special Award for AI-For:** Proposed an innovative solution using RAG with chatbot and LaaS to automate hardware leasing, firmware setup, and testing, cutting setup time by 80% and streamlining resource allocation.

BIOS/UEFI Feature Development & Platform Issue Resolution

- Co-own the design and development of the D4D (Design for Diagnosis) feature, increasing BIOS debugging log capacity by 15x, implementing standardized logging, critical debugging table storage, compression, and data sorting for future AI.
- Developed an OS-based tool for decompressing and decoding BIOS debug logs from customer TSR logs, streamlining error analysis and enhancing troubleshooting efficiency.
- Mentored interns in utilizing BIOS debug logs for organization and analysis, and spearheaded the establishment of an AI model for preliminary detection of BIOS issues.
- **DELL FY25 Game Changer Award** for groundbreaking innovation on the D4D feature, enabling full boot log capture with minimal POST time impact.

CECI Engineering Consultants, Inc.

Technical Leader and Software Engineer

Taipei, Taiwan

July 2018 - August 2021

Software and Web-Based Solution Planning, Development, Maintenance, and Security Enhancement

- Led the department's largest project as a tech lead, delivering 15+ large-scale web solutions as a full-stack engineer, including Smart Land Systems, Urban Planning Systems, Surface Deformation Monitoring Systems, and more.
- Pioneered the department's first CI/CD system, independently hosting and developing a solution that unified projects with configuration management, and security inspection, automating deployments and slashing 90% of processing time.
- Boosted spatial data accuracy by 7% with enhanced address fuzzy matching.
- Overhauled the daily synchronization of cadastral databases between backend systems and external Oracle databases, resulting in a substantial 50% enhancement in fetching new spatial data and improving security.

Team Capability Optimization and Innovation Initiatives

- Implemented automated third-party API testing, prioritizing integration with project CI/CD workflows to ensure efficient system stability monitoring for developers and maintain high product release quality.
- Directed a five-person development team to successfully solve the department's largest project, showcasing strong communication, coordination, and teamwork skills, overseeing code reviews, and providing technical guidance.
- Spearheaded the adoption of Git flow and Agile-based SDLC for the software development team, potentially enhancing development efficiency by 65%.

EDUCATION

National Taiwan University

Master of Science in Civil Engineering (GIS and Surveying) Graduated with 1st Class Honors

Taipei, Taiwan

September 2016 - June 2018

- Developed error-adjustment software with GUI & DLL, reducing costs by \$3K USD annually.

National Chengchi University

Bachelor's Degree in Geomatics, Land Economics (Geomatics and Surveying) Graduated with 1st Class Honors

Taipei, Taiwan

September 2012 - June 2016

ADDITIONAL SKILLS AND AWARDS

- **Open-Sources:** hugo-toha (Maintainer), github-readme-stats (Contributor).
- **Skills:** Linux, UEFI, C, Python, C#, JavaScript, TypeScript, SQL, Node.js, React.js, API, .NET, Git, Jenkins, Docker, AWS, DevSecOps, Security, SonarQube, Vault.
- **Certifications:** AWS Certified Solutions Architect, Hacktoberfest 2024 Certification, PMP Certification Training, Professional Engineer Certificate – Survey, Certified Procurement Professional.
- **Awards:** 2025 DELL ISG Hackathon AI-For Special Award, FY25 & FY23 DELL Game Changer Award, 2024 & 2020 iTHelp Keep Sharing Award, 1st Place in Water OpenData IoT.
- **Languages:** Chinese (Native), English (Fluent).

