

# Kayla Liao

廖揚清 Yang-Ching Liao

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• Medium: <https://medium.com/@kayla82456385311> • CPT-eligible starting May 2026 (NEU Seattle, F-1 visa)

## SUMMARY

- Software & Security Engineer with hands-on experience in server firmware validation, UEFI driver development, and backend systems.
- Proficient in C++ and SQL, with experience using Python (pandas, numpy) and R for data reporting.
- Experienced in cross-functional collaboration with global engineering teams.

## TECHNICAL SKILLS

- Programming: C++, Python (pandas, numpy), HTML/CSS, SQL (MSSQL)
- Firmware/Security: UEFI, SPDM, Secure Boot, Firmware Debugging
- Web/Backend: Flask, Bootstrap, Git, API Design
- Data Analysis: pandas, numpy, R, Excel automation

## WORK EXPERIENCE

### DELL TECHNOLOGY / Firmware Engineer

(Aug 2023-present)

#### 17G Server Power – Security Firmware Design

- Validated PSU firmware using C++ to meet federal security standards, including secure boot, cryptographic updates, and device authentication (certificate chain of trust and digital signature), ensuring compliance with NIST and DMTF SPDM protocols.
- Defined firmware specifications (e.g., MCRPS, SPDM) for vendor compliance and interoperability.
- Diagnosed and resolved firmware issues, enhancing server power reliability.
- Partnered with USA/India teams, accelerating PSU deployment by 60%.

#### 16G & 17G BIOS -- Server UEFI Driver Project

- Developed UEFI HII driver in BDS phase for early POST error data capture, improving root-cause analysis speed by 40%.

#### PSE (Portfolio System Engineer) Project – Cloud-Based Web Tool

- Built a cloud-based visualization tool for system schematics, improving circuit validation speed by 70%.
- Implemented using Flask, JavaScript, HTML5, and Dell Cloud infrastructure for data retrieval.

### COMPEQ MANUFACTURING CO., LTD. / Web Developer Intern

(Jan 2023-Apr 2023)

- Delivered responsive corporate website with Agile, animated UI using JavaScript, HTML/CSS, Bootstrap, ensuring cross-browser and mobile compatibility.

## **GLOBAL NET AUTOMOTIVE CO., LTD / Software Engineer Intern** (Feb 2022-Jan 2023)

- Developed a secure internal web app using Flask and MSSQL for efficient data visualization and queries.
- Utilized pandas, numpy, and R to process and transform large datasets from the SQL database, generating automated Excel reports for business analysis.
- Assembled and configured systems, network devices, and peripheral hardware to support internal operations.

## **PROJECTS**

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### **Voice gesture control self propelled vehicle – Python, OpenCV, Speech Recognition** [LINK](#)

- Raspberry Pi vehicle, controlled with voice and hand gestures to operate the vehicle

### **3D Jet Game Web Application – WebGL2 & JavaScript, GPU-based Rendering** [LINK](#)

- Built an interactive 3D jet simulation game using WebGL2, achieving 60 FPS with dynamic lighting and physics-based movement.

## **EDUCATION**

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### **Yuan Ze University – Bachelor's in Computer Science** (Oct 2019-Jun 2023)

- Selected Coursework: Introduction to Wireless Internet (A+), Computer Programming (A+)
- Teaching Assistant of Interactive Video Game Development

## **CERTIFICATES**

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- AWS Certified Cloud Practitioner | TOEFL 108/120 | Collegiate Programming Examination 3/5