

# Kayla (Yang-Ching) Liao

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• **Email:** [kayla82456385311@gmail.com](mailto:kayla82456385311@gmail.com) • **Linkedin:** ([Kayla Liao | LinkedIn](#)) • **Portfolio:** <https://kayla956593.github.io/#>  
• **Medium:** <https://medium.com/@kayla82456385311> • CPT-eligible starting May 2026 (NEU MSCS Seattle, F-1 visa)

## SUMMARY

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- 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.

## TECHNICAL SKILLS

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- 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

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### DELL TECHNOLOGY / Firmware Engineer

(Aug 2023-present)

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

- Conducted SPDM (OpenSSL) and cryptographic update validation in C++ on PSU firmware, uncovering and reporting multiple authentication vulnerabilities during pre-release security testing.
- Ensured compliance with NIST & DMTF SPDM standards to strengthen resistance against unauthorized firmware access and maintain vendor interoperability (MCRPS, SPDM).
- Partnered with Taiwan/USA/India teams to patch authentication vulnerabilities, improving deployment by 60%.

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

- Built a UEFI HII driver in BDS 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 mutex locks to prevent race conditions, ensuring reliable file access in secure environments.

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

(Jan 2023-Apr 2023)

- Delivered responsive corporate website with Agile workflow, 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 data visualization and queries, and automated large dataset processing (pandas, numpy, R) to generate Excel reports for business analysis.
- Assembled and configured systems, network devices, and peripheral hardware to support internal operations.

## EDUCATION

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### Northeastern University, Seattle — M.S. in Computer Science

(Aug 2025 - 2027/present)

### Yuan Ze University – Bachelor's in Computer Science

(Oct 2019-Jun 2023)

# PROJECTS

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## **Secure Real-Time Communication Platform** *(Java, Android Studio, Firebase, Google OAuth)*

[LINK](#)

- Developed an Android chat application (Java, Android Studio, Firebase, Google OAuth) enabling job postings, programming Q&A, and online interviews via integrated video call, with secure login, data storage, and role-based access control to ensure data integrity and privacy.

## **Voice gesture control self propelled vehicle – Python, OpenCV, Speech Recognition**

[LINK](#)

- Designed a Raspberry Pi autonomous vehicle with multi-modal control via computer vision (OpenCV) and speech recognition, demonstrating secure sensor fusion and real-time system performance.