

# Rain Zhang

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## EDUCATION

### Simon Fraser University

Bachelor of Science in Computer Science

September 2023 – Present

Vancouver, BC

- Dean's Honor Roll (Fall 2024) | Faculty of Applied Science
- Dean's Honor Roll (Summer 2025) | Faculty of Applied Science

## Experience

### Full Stack Engineer Intern - International Department

September 2025 – December 2025

FEITIAN Technologies Co., Ltd.

Beijing, China

- Delivered end-to-end development of three production systems for a post-quantum cryptography (PQC) initiative, covering architecture design, full-stack implementation, testing, CI/CD, and production deployment.
- Coordinated cross-functionally with hardware engineering teams to align software and security requirements.
- Worked cross-border with US-based stakeholders; delivered production features primarily for US markets.
- Operated in a fully self-directed role, independently learning all knowledge and delivering complete projects without mentorship.

## PROJECTS

### Security Product Demo Platform

November - December 2025

- Built a user-oriented full-stack WebAuthn/Passkeys demo platform with support for Post-Quantum Cryptography (PQC) algorithms.
- Implemented secure authentication flows (WebAuthn, OTP, Password) and production deployment on a private Ubuntu Server with CI/CD.
- Delivered a self-service testing experience for security keys, OTP devices, and biometric authenticators with bilingual UX.

**Tech Stack:** Python (Flask), React.js, TypeScript, Tailwind CSS, C/C++ (liboqs)

### ML-DSA Software FIDO Authenticator

October 2025 – November 2025

- Implemented a Rust-based FIDO2/CTAP2 software authenticator with ML-DSA integration and virtual HID support.
- Built protocol, storage, and transport layers with secure key handling and Linux UHID integration.

**Tech Stack:** Rust (Trussed), C/C++ (liboqs)

### Post-Quantum FIDO2/WebAuthn Platform

September 2025 – October 2025

- Developed a public WebAuthn developer toolkit integrating Post-Quantum Cryptography algorithms with advanced testing and decoding tools.
- Extended Yubico's python-fido2 to support Post-Quantum COSE keys and attestation verification.
- Built a FIDO Metadata Service (MDS) explorer with automated updates, enabling search and validation of authenticators for testing.

**Tech Stack:** Python (Flask), JavaScript, HTML, CSS, C/C++ (liboqs)

## SKILLS

- **Programming Languages / Frameworks:** C, C++, Python, Java, HTML, CSS, JavaScript, React.js
- **Operating Systems:** Windows, Macintosh, Linux
- **Software & Tools:** Visual Studio Code, JetBrains IDEs, Git, GitHub, Microsoft Office