

MINJUNG KWON

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SUMMARY

Linux kernel and embedded systems engineer building automotive infotainment platforms at Rivian and VW Group Technologies. Owner of device tree configuration across a multi-VM Qualcomm SoC platform, with a track record of shipping virtualization-level resource consolidation, CI-integrated hardware validation tooling, and kernel-level triage on real hardware. Background spans firmware bring-up, systems validation (Intel), and Wi-Fi driver security (Apple).

TECHNICAL SKILLS

Kernel & Embedded: Linux kernel, Device Tree, Yocto, Kconfig, RTOS, virtualization (multi-VM guest configuration), Qualcomm automotive SoCs (SA8255), microcontrollers, CAN / UART / SPI / I2C

Languages: C/C++, Python, Shell, Verilog, Perl, MATLAB

Tools & Practices: CI/CD test automation, Git, Gerrit code review, oscilloscopes / lab bench debugging, AWS, Confluence documentation, AutoCAD, SolidWorks

EXPERIENCE

Rivian and VW Group Technologies — Software Engineer, Kernel

Palo Alto, CA | Nov 2025 – Present

Infotainment & Connectivity Platform

- Own Linux kernel device tree configurations for a Qualcomm SA8255-based automotive infotainment platform, serving as review gate and source of truth for hardware configuration across multiple virtualized guest OS variants.
- Drove CPU core re-allocation for a platform-wide VM consolidation initiative, reconfiguring guest VM core topology in Yocto/Kconfig layers to reclaim compute for safety- and telemetry-critical workloads.
- Built a GPIO configuration validation tool and integrated it into the CI automation framework, converting manual hardware config audits into automated regression checks that catch configuration drift on every build.
- Serve as first-line kernel triage for boot failures, missing peripherals, and cross-variant configuration divergence; document root causes and fixes in Confluence to cut repeat debugging time for the team.

Intel — System Validation Graduate Intern

San Jose, CA | Jun 2023 – Oct 2023

- Automated system-level regression tests for the F-Tile Tool Kit, delivering ~\$30K/quarter in validation cost savings.
- Simulated and debugged FPGA network architecture designs on hardware boards, isolating failures via log analysis.
- Developed dynamic test systems in Python, Perl, and C to validate a wide range of input speeds and protocols.

Apple — Core Wi-Fi Software Engineering Intern

Cupertino, CA | May 2022 – Aug 2022

- Audited and documented C++ Wi-Fi driver security; contributed fixes to secure driver releases for unreleased devices.
- Reproduced, patched, and tested vulnerabilities by building driver binaries on iPhone and MacBook development hardware.

Cornell University — Embedded OS Graduate Teaching Assistant

Ithaca, NY | Aug 2022 – Dec 2023

- Mentored 78 graduate students in kernel programming, multi-core systems, and RTOS debugging; guided teams through system-level debugging and sensor integration in Embedded C and Python.

SELECTED PROJECTS

- **Run, Hide, Activate** — designed an embedded emergency defense system with user-activation security logic on Raspberry Pi, OpenCV, and ESP8266, validated for reliability and power under stress conditions (ECE M.Eng. capstone; poster session winner).
- **Dancing Boids** — engineered a real-time boid simulation on FPGA (DE1-SoC), optimizing HDL for responsiveness and resource use; built and debugged FPGA-HPS integration in Verilog and C.
- **Campus Congestion** — published real-time building congestion monitoring system using Wi-Fi data and server-side analysis on Raspberry Pi 4.

EDUCATION

Cornell University, College of Engineering

Ithaca, NY

- M.Eng. in Electrical and Computer Engineering (Early M.Eng. Program), GPA 3.55 — Jan 2023 – Dec 2023
- B.S. in Electrical and Computer Engineering, Minor in Computer Science, GPA 3.39 — Sep 2020 – May 2023
- Coursework: Embedded Operating Systems, Operating Systems, Computer Architecture, Networks, Microcontrollers

AWARDS & CERTIFICATIONS

- KISA Information Security Certification (Theory Test Pass), Korea Internet & Security Agency — Oct 2024
- ECE M.Eng. Poster Session Winner (Electronic Devices & Materials), Cornell University — Dec 2023
- Black Hat USA Scholarships (Briefing Pass) — Women in Security and Privacy (2023); Executive Women's Forum (2021)