

PROFILE

Nati is a motivated electrical engineer with hardware and software experience and an understanding of PC system architecture. He learns quickly, adapts well in fast-paced environments, and works effectively with stakeholders to meet tight deadlines. Passionate about solving problems, he is eager to gain hands-on experience and contribute to innovative and impactful projects.

EXPERIENCE

Dell Inc., Austin, TX

Hardware Engineering Rotation Program

February 2023 – Present

- Option module complexity reduction by investigating feasibility of a USB to serial conversion to remove \$0.13 connector cost added to high volume platform (Dell Optiplex, 10M+ units per year)
- 2 patents pending for Secure USB IP, a hardware-based USB traffic monitoring. (US 20250335642 A1 and US 20250390614 A1).
- Independently designed and developed a PCB proof of concept to validate Secure USB IP (Idea to gerberout).
- Traveled abroad to Mexico and Taiwan for hands-on lab training and factory visits to observe high-volume consumer electronics manufacturing (SMT line, progressive die stamping, injection molding etc...).
- Built a custom Dust chamber to investigate high dust related recall issues on Inspiron devices in India.
- Architected a low-power contextual sensing system using an MCU with an integrated NPU and multiple sensors to detect device context (in bag, on desk, user presence, etc.) using in-house lightweight ML classification models.
- Developed an evaluation Dev kit for the sensing architecture to support early SW/FW development—responsible for architecture and Schematic.
- Evaluated self-capacitance sensing technology for human touch and proximity detection using the laptop metal housing as the sensing node. Developed multiple POC iterations to improve proximity performance, achieving 2–3 ft detection range with a floating housing design.
- Led testing efforts to evaluate and mitigate the negative effects of a floating housing (RF desense, EMI, and ESD)
- Conducted competitive benchmarks across 20 systems. Automated benchmark running, data collection and reporting with scripts
- ORCAD Schematic capture for ARLs based Notebook. Responsible for HDMI, EC and DC-DC convertors
- Wrote a script for netlist comparisons. Helped the team save time with redrawing schematics.
- Leveraged AI to develop a full-stack competitive analysis platform using a React frontend, Python FastAPI backend, and PostgreSQL database.

Undergraduate Systems Architect Intern

June 2022 - August 2022

- Helped develop a standard module connector pinout, addressing high-speed PCB issues such as crosstalk, impedance matching, shielding, and connector cost tradeoffs.

Undergraduate Electrical engineer Intern

May 2021 - August 2021

- Routed an SLI bridge for the Nvidia GV100 card that would be utilized on a Dell Precision tower.

Undergraduate BIOS Intern

June 2020 - July 2020

- Implemented Bluetooth 4.0 in BIOS by integrating a Bluetooth driver to enable Bluetooth device connection on pre-boot

Nokia, Irving, TX

5GRAN E2E Testing and Automation Intern

June 2019 - August 2019

- Built a Python GUI app to automate Excel-to-JIRA data entry, saving ~1.5 hours of manual work per use.

EDUCATION

Bachelor of Science - BS, Computer Engineering

December 2022

The University of Texas at Dallas

SKILLS

System Architecture, Cadence/Allegro, basic TCL/SKILL script, KiCad, basic soldering/rework, lab equipment, Vendor engagement, Python, Git, C/C++