

EMPLOYMENT

Digital Design Engineer **Texas Instruments** **July 2017 - Present**

Design Verification

- Developed 300+ tests in C, assembly, and System Verilog to verify power-down logic and multicore functionality between Arm Cortex-A, TI DSPs and multi-level cache controllers in a UVM test-bench environment.
- Utilized Cadence EDA tool suite to build and maintain integration test-bench along with Perl for testing and regression flows.
- Discovered 20+ critical hardware issues pre tape-out and performed root-cause analysis to verify fixes.

System Validation/Stress Testing

- Expanded bare-metal multicore random stress test C++ application to uncover edge-case issues in design and software.
- Created random-generated 16-level nested interrupt stress test to verify Arm Cortex-R5 SoC-level integration.
- Led 3 month-long debug effort on silicon evaluation boards which identified a critical memory system hang issue and developed robust software workaround to deliver to customers within 24 hours.

Digital Design Teaching Assistant **Georgia Institute of Technology** **Jan 2015 – May 2015**

- Assisted and educated class of 20 students on use of various lab equipment to analyze digital circuits.
- Provided instruction to students on VHDL programming using FPGA Programming Software (Quartus II).

Distribution Engineering Co-op **Georgia Power** **Jan 2014 - Aug 2015**

- Managed 20+ new business and maintenance distribution energy solutions/projects totaling over \$250,000.
- Developed project-estimating iOS app in Objective-C designed to save engineers effort in the field and ~20 min/estimate.
- Designed and laid out project plans using GIS CAD tools and internal engineering software.

TECHNICAL EXPERIENCE

Projects

- **File-Server/Client Library (2021):** Multithreaded network library for transferring files using C socket API and pthread library.
- **MIST Backend Migration (2021):** Backend migration from Ruby to Python/Django to resolve critical security issues and reduce difficulty in adding new features. Python, Django, GraphQL.
- **Retail Customer Loyalty System (2020):** Website and backend for accepting customer surveys based on QR code input which dynamically generates and sends voucher images to customers. Python, Django, SQL, HTML
- **MIST iOS App (2019):** Developed iOS app and admin panel utilizing Firebase auth and NoSQL DB for use by MIST high school competitors and organizers across the U.S, receiving 7,200 App Store downloads to date. Swift, VueJS, NodeJS, HTML
- **Augmented Reality Headset (2016):** Hands-free wireless device that enables realtime group communication for use in loud environment and for the deaf and hard of hearing, with max range of 180ft and max delay of 4.2s. Python, Bluetooth, Bash.
- **IoT Security System (2016):** Home intrusion detection and alarm system designed with 9 analog/digital sensors and UART camera communicating via REST API on WiFi-enabled microprocessors. C, JavaScript, HTML

EDUCATION

Atlanta, GA **Georgia Institute of Technology** **2012 - 2017, 2021 - Present**

- M.S. in Computer Science - Specialization in Machine Learning, Expected Graduation: Spring 2024.
- B.S. in Electrical Engineering, May 2017. GPA: 3.78
- Graduate Coursework: Operating Systems. Planned: Machine Learning, Deep Learning, Artificial Intelligence
- Undergraduate Coursework: VLSI & Digital Design, Computer Architecture; Embedded Systems, Software Development

ADDITIONAL EXPERIENCE AND AWARDS

- **MIST I.T. Director (2018 – 2019):** Led team of 4 volunteers in charge of administering MIST online systems including website, registration system, and mobile apps.
- **Web Freelancer (2020-Present):** Created frontend website and backend system for clients in retail and education industries.

LANGUAGES AND TECHNOLOGIES

- C/C++; Assembly; SystemVerilog; UVM; Python; Django; Swift; SQL; JavaScript; HTML; CSS; Perl; VueJS; NodeJS
- Linux/Bash; Makefile; Vim; Cadence EDA; GDB; Xcode; Firebase