

HOWARD ZHU

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EDUCATION

Georgia Institute of Technology

Atlanta, GA

Master of Science, Computer Science

Expected December 2026

GPA: 3.85/4.0

Relevant Coursework: Information Security, Advanced Networking, Binary Exploitation, Datacenter Networks & Systems

University of California, Los Angeles (UCLA)

Los Angeles, CA

Bachelor of Science, Computer Science

June 2025

GPA: 3.74/4.0

EXPERIENCE

American Honda Motor Co., Inc.

Torrance, CA

Application Security Intern

May 2026 – August 2026

- Architected a secure software delivery workflow for build provenance, artifact integrity, and **software supply chain attestation**.
- Built reusable GitHub Actions workflows to standardize **CI/CD** security controls across application teams.
- Generated and validated **SBOMs** to improve dependency visibility and support software supply chain risk management.

WREK Atlanta 91.1 FM

Atlanta, GA

Live Sound Director

April 2026 – Present

- Lead technical production for weekly broadcasts and ~10 external events per semester serving up to 1,200+ attendees.
- Design audio, video, and control signal flows using Dante/AES, NDI, and DMX/Art-Net across fixed and mobile environments.
- Support WREK's on-prem infrastructure across 5 servers and 12+ **Docker** services by contributing to internal software.

Internet Research Laboratory, UCLA & The University of Memphis

Los Angeles, CA

Undergraduate Researcher

July 2023 – June 2025

- Developed an application to securely transfer medical data using the Named Data Networking (NDN) protocol.
- Constructed **C++** and **shell**-based test tooling to validate application correctness and protocol behavior.
- Employed attribute-based encryption to secure data contents instead of the data container.

Semel Institute for Neuroscience and Human Behavior, UCLA

Los Angeles, CA

Information Systems

August 2024 – June 2025

- Completed computer imaging, configured network deployments, and administered computer repair for end users.
- Resolved issues revolving around peripheral configuration, hardware inquiries, and software usage.
- Performed routine software updates and compliance checks in accordance with HIPAA and security policies in a hospital.

Structures-Computer Interaction Laboratory, UCLA

Los Angeles, CA

Undergraduate Researcher

January 2023 – June 2024

- Led software development on a 4-person team building a robotic platform for autonomous precision agriculture.
- Integrated depth camera systems for data collection and autonomous navigation through fields.
- Designed control software for robot locomotion and long-range communication over LoRa.

TECHNICAL SKILLS AND CERTIFICATIONS

- **Languages:** Python, C++, JavaScript/TypeScript, SQL, Bash, x86 Assembly
- **Frameworks/Libraries:** React, Next.js, Node.js, Django, Flask, FastAPI, PyTorch, TensorFlow, scikit-learn
- **Tools/Platforms:** Git, GitHub/GitLab, Docker, Kubernetes, Google Cloud Platform, Unix/Linux, PowerShell
- **Systems/Security:** CI/CD, SBOM, SLSA, Software Attestation, TCP/IP, DNS, DHCP, VLANs, REST APIs, Embedded Systems
- **Certifications:** CompTIA A+

PROJECTS

Home Lab | Docker, pfSense, Unraid

- Configured pfSense with **VLANs**, **DNS**, and **VPN** for secure service exposure through **Cloudflare**.
- Deployed and managed 25+ Docker containers and 2 VMs on an Unraid server with redundant storage and UPS-backed power.
- Administered **Gitea**, **web servers**, and full-stack applications with secure remote connections and access controls.

Bruin SMV CAN | C++, Arduino, PostgreSQL, MQTT, Django

- Wrote a reusable C++ CAN bus library for Teensy and ESP32 microcontrollers, published to the Arduino Library Registry.
- Enabled communication between 11 nodes using 30 signals over a 500 kbps link.
- Built self-hosted full-stack app for data collection, analysis, and real-time monitoring using **Django**, **PostgreSQL**, and **MQTT**.