Edwin Tieu

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EDUCATION

University of Southern California, Viterbi School of Engineering — Los Angeles, California
M.S. Computer Engineering | GPA 3.58 — JANUARY 2025-MAY 2026
B.S. Computer Science and Computer Engineering — AUGUST 2021-MAY 2025
Honors: CURVE Research Fellowship, Dean's List
Relevant Coursework:
EE: Computer Systems Architecture, VLSI System Design, Network Processor Design, Hardware Foundations of ML, Integrated Memory Devices, System-on-Chip
CS: Operating Systems, Algorithms and Theory of Computing, Artificial Intelligence, Internetworking, iOS App Development
Math: Probability Theory, Linear Algebra and Differential Equations, Multivariable Calculus

EXPERIENCE

Northrop Grumman — Woodland Hills, California
Embedded Software Engineer — AUGUST 2026-PRESENT
- Own end-to-end system testing of the Blended Navigation Assurance feature for the EGI-M next-generation, open-architecture inertial navigation system
- Partner with chief engineers to resolve critical performance bugs and establish software baselines for formal qualification testing (FQT)
- Verify EGI-M software requirements and system test specifications for DO-178C and DO-229 compliance

Embedded Software Engineering Intern — MAY 2025-JULY 2025
- Traced EGI-M test failures to system software, test station, or Spirent simulator faults ahead of production deployment
- Led a lab-wide initiative to automate Spirent simulator–test station communication and enable 24/7 remote access, doubling testing throughput
- Analyzed High-Speed Serial Interface, RS-232, and RS-422 test data to verify the EGI-M met its performance requirements

Embedded Software Engineering Intern — JUNE 2024-AUGUST 2024
- Optimized the SQL behind Tableau dashboards that every scrum team uses to track requirement counts and velocity, improving run times by 103%
- Integrated and tested software on the EGI-M navigation system to validate capabilities against IBM DOORS requirements
- Developed MATLAB test scripts from system test case requirements to meet stakeholder and customer specifications

Embedded Software Engineering Intern — MAY 2023-AUGUST 2023
- Automated lab inventory tracking with MATLAB and the Confluence REST API, detecting when equipment powered on or off and publishing its live status to Confluence
- Reviewed next-generation navigation software requirements in IBM DOORS with engineers across multiple teams
- Created reusable cybersecurity document templates that streamlined the clearance process between Northrop Grumman and government agencies

USC ANRG Laboratory — Los Angeles, California
Software Engineer — AUGUST 2024-JANUARY 2026
- Researched and evaluated acoustic localization techniques from existing literature for integration into an experimental Raspberry Pi testbed for DoD-funded IoBT research
- Designed experiments to validate a custom acoustic localization algorithm in Python, using MQTT and ZeroMQ publish/subscribe messaging
- Collected and analyzed audio data from outdoor field experiments to iteratively refine the localization model and improve positioning accuracy

ACADEMIC PROJECTS

Hardware Accelerated Network Processor — MAY 2025
- Designed and implemented a 64-bit ARM-based network processor in Verilog on NetFPGA hardware, supporting read, write, and sort operations
- Built a Python-based compiler that translates C code into custom assembly instructions for the network processor
- Added a SmartNIC neural processing unit to the network processor that classifies incoming MNIST digit images in-line, reducing processing load and bandwidth use

SKILLS

Languages: C/C++, Python, Verilog, MATLAB, SQL, Java, Swift, JavaScript, HTML/CSS
Hardware & Protocols: NetFPGA, Raspberry Pi, RS-232, RS-422, MQTT, ZeroMQ
Tools: Git/GitHub, Docker, ModelSim, IBM DOORS, Tableau, Confluence
Standards: DO-178C, DO-229