

Aaron Hui

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PROFESSIONAL SUMMARY

Undergraduate junior studying Computer Engineering and Computer Science (Embedded Systems Track) at the University of Southern California with a 3.9 GPA and research experience at NASA JPL and the USC Institute for Creative Technologies in embedded systems, AI/ML, and simulation.

SKILLS

Languages: Python, C, C++, Java, Verilog, MATLAB, Bash/Shell, PostgreSQL

AI/ML: TensorFlow, PyTorch, Keras, scikit-learn, OpenCV

Systems and Tools: Linux, Git/GitHub, Docker, Kubernetes, Embedded Linux, REST, MQTT, CMake, AI Agents, Spatial Web

Embedded and Hardware: FreeRTOS, FPGA, Vivado, RTL Design, ESP32, Raspberry Pi, Arduino, UART, SPI, I2C, Cadence

Simulation and 3D: NVIDIA Omniverse, Digital Twin, Unity Engine, Unreal Engine, SolidWorks

EDUCATION

University of Southern California

Los Angeles, CA

Bachelor's of Science in Computer Engineering and Computer Science, Embedded Systems Track. GPA: 3.9/4.0. Aug 2025 - Dec 2027

Relevant Coursework: Machine Learning for Engineers, Introduction to Embedded Systems, Computer Systems Organization, Linear Circuits, Probability and Statistics, Distributed Systems for the Internet of Things

El Camino College

Los Angeles, CA

Associate's of Science in Mathematics; Associate's of Science in Computer Science. GPA: 3.9/4.0.

Jun 2024 - Jun 2025

Relevant Coursework: Data Structures and Algorithms in C++ and Java, Principles of Data Science, Machine Learning on AWS, Differential Equations and Linear Algebra

EXPERIENCE

Product Engineer

Sep 2026 – Present

USC LavaLab

Los Angeles, CA

- Selected for USC's premier student-run startup incubator to conceptualize, design, and build a scalable MVP for Demo Day
- Collaborate with product managers and UI/UX designers to define technical requirements, user flows, and product architecture

AI/Simulations Research Intern

May 2026 – Jul 2026

USC Institute for Creative Technologies, Simulations, Architecture, and Intelligent Agents Lab

Playa Vista, CA

- Expanded a Virtual Human toolkit by writing integration and connector code, reducing character integration time to 5 minutes and extending compatibility to NVIDIA Omniverse
- Designed a pipeline to convert a UAE article description into a manipulatable 3D asset importable to Unity Engine in 2 minutes

Student Independent Simulations Research Intern

Feb 2025 – Jun 2025

NASA Jet Propulsion Laboratory, Flight Electronics Department

La Canada Flintridge, CA

- Selected as one of 20 students across the California Community College system to intern at NASA JPL over 18 weeks
- Programmed interoperability between 3 simulation engines using NVIDIA software for digital twin simulations on lunar terrain; produced a stakeholder demo exploring spatial web and agentic AI integration

PROJECTS

Edge-Based Anomaly Detection Agent

Spring 2026

- Trained and evaluated Logistic Regression, MLP, and LSTM Autoencoder models on the NASA Bearing and KAIST run-to-failure datasets for bearing fault detection
- Built an AI agent using a localized LLM that detected anomalies with 90% accuracy and F-1 scores above 0.9 on simulated test data using a model under 500 parameters

Raspberry Pi Video and Audio Streaming System

Spring 2026

- Built a Raspberry Pi streaming system using OpenCV for motion-triggered recording and Flask WebSocket servers
- Deployed Syncthing to engineer an automated file backup and synchronization pipeline across decentralized devices

Snake Xilinx FPGA

Spring 2026

- Programmed a fully functional Snake game with menu UI on a Xilinx FPGA using AMD Vivado; designed a finite state machine and unit tests to validate VGA controller output

AWARDS & HONORS

- USC President's High-Tech Scholar
- USC Viterbi W.V.T. Rusch Engineering Honors
- USC Dean's List: Fall 2025, Spring 2026
- El Camino College Dean's List: Fall 2024, Spring 2025