

JACK SHI

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EDUCATION

University of California Los Angeles

BS Electrical Engineering *GPA: 3.92*

Los Angeles, CA

September 2024 - June 2027

- Relevant Coursework: Signals & Systems, Digital Signal Processing, Semiconductor Physics, Circuit Analysis, Data Structures & Algorithms, Logic Design of Digital Systems, Electromagnetic Waves

PAPERS

Shi, J., Liu N., Wang Y.

Infant Wearable Project

San Diego, CA

Under review for ACM CHI 2026 – Barcelona

- Research Output – Writing a paper for ACM CHI 2026; presented project updates to PhD students and interns at UCSD Design Lab, created user manuals and wiring diagrams in Photoshop, and developed presentation slides explaining hardware and methodology.

WORK EXPERIENCE

University of California San Diego – Design Lab ECE Branch

Infant Wearable Project

San Diego, CA

April 2025 - Present

- Integrated System Design – Built a reliable, wearable sensing platform using Raspberry Pi with camera, microphone, and power management board; ensured continuous in-home infant monitoring.
- Hardware Development – Soldered and assembled durable circuitry; designed snap-fit enclosures in Fusion 360 to secure components safely on a moving infant, with emphasis on robustness, comfort, and long-term reliability. Refined design through sensor placement testing for stable infant use.

San Diego State University – ECE Department [GitHub](#)

Research Assistant - Waveform Generator GUI Project

San Diego, CA

May 2023 - August 2023

- MATLAB Programming – Engineered MATLAB software for Windows to interface with waveform generators, enabling automated control & data acquisition.
- Oscilloscope & Waveform Generator Operation – Hands-on experience configuring & troubleshooting waveform signals for electrical testing & research applications.

University of California San Diego – ECE Department

Full Stack Development Intern

San Diego, CA

May 2023 - August 2023

- Full-Stack Web Development – Implemented & debugged React Native frontend & JavaScript/PostgreSQL backend for PersonalPT, a machine learning-powered physical therapy app.
- Authentication & Security – Developed a secure user verification system with email-based authentication & access control to protect sensitive patient data.

FEATURED PROJECTS

Dining Buddy Smart Keychain Project [GitHub](#)

May 2024 – Present

- Designed & printed PCB for a portable ESP32-C3 device, featuring an OLED screen & button.
- Implemented Wi-Fi to fetch dining hall menus & live weather, with deep sleep for low power usage.
- Modeled & printed custom themed enclosures featuring a screwless snap-fit design for tool-free assembly.

FFT Biometric Door Lock [GitHub](#)

February 2025 - March 2025

- Created a wearable microcontroller that generates a unique FFT signature for biometric door unlocking.
- Designed an ESP32-based signal analyzer using DAC-generated signals & ADC for FFT analysis.

Game Console Restoration Business

April 2025 – Present

- Sales & Resale – Repaired & sold 5 restored Game Boy consoles through online platforms, combining technical repair skills with market research & pricing strategy.
- Hardware Restoration – Refurbished over 10 Game Boy & DS consoles, performing micro soldering, capacitor replacements, & LCD/power circuit repairs using aftermarket parts.

SKILLS

- **Programming Languages:** C++, MATLAB, Python, JavaScript, Java, Verilog, SQL, HTML
- **Software Tools:** Kicad, Fusion360, LTSpice, Microsoft Visio, Photoshop, React Native