

Eduardo Castellon-Serrato

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EDUCATION

University of California, Merced
B.S. Computer Science and Engineering

Merced, CA
May 2026

EXPERIENCE

Digital Media Production Intern

Nov 2022 – May 2024

University of California, Merced

Merced, CA

- Spearheaded high-impact collaboration with 10+ stakeholders, implementing robust podcast production workflows leveraging industry-standard DAWs including Pro Tools, Adobe Audition, Ableton, Audacity, and Fruity Loops
- Optimized audio infrastructure, configuring enterprise-grade microphone arrays and signal processing for multi-channel sessions, delivering peak audio fidelity and professional-quality output for academic productions
- Managed real-time audio engineering operations, implementing advanced signal processing protocols while orchestrating fluid integration of complex audio components and digital processors for mission-critical live events

PROJECTS

Mock Social Media Platform | *MongoDB, Express, React + Vite, NodeJS*

Dec 2025

- Developed a full-stack social media web application using the MEAN stack (MongoDB, Express.js, React, Node.js), implementing core Instagram-style features end-to-end
- Built RESTful APIs with Node.js and Express.js, supporting full CRUD operations (GET, POST, PUT, DELETE) for users, posts, comments, likes, and follow relationships
- Collaborated in a 3-person team using Git/GitHub, contributing across frontend, backend, debugging, and API integration in an Agile-style workflow
- Implemented secure authentication and authorization, including account creation, login, password hashing and salting, and protected backend routes

Mock Course Registration | *Flask, SQLAlchemy*

Nov 2025

- Developed a role-based full-stack web application with a 3-person team using Flask (Python) with SQLAlchemy ORM, simulating a real-world course registration system
- Implemented authentication and authorization with role-based access control (RBAC) for students, instructors, and administrators, enforcing permission boundaries
- Built CRUD functionality for courses, users, enrollments, and grades, enabling students to manage schedules, instructors to assign grades, and admins to manage all system data
- Designed and integrated a dynamic web frontend using JavaScript, HTML, and CSS, connecting to backend Flask routes for seamless user interactions

Personal Web Portfolio | *NextJS, TypeScript, Deployed on eduardocastellon.com*

March 2025

- Designed and developed a production-ready personal portfolio website using Next.js and TypeScript, showcasing projects, technical skills, and professional background
- Implemented multi-page routing and layout structure (Home, Skills, Projects, Contact), leveraging Next.js routing and component-based architecture
- Built a custom virtual business card page and embedded a downloadable resume, enhancing professional presentation and accessibility
- Deployed and hosted the site on a custom domain, demonstrating experience with modern frontend tooling, deployment workflows, and web performance considerations.

TECHNICAL SKILLS

Programming Languages: JavaScript/TypeScript, HTML/CSS, Java, Python, C, C++, Assembly (MIPS)

Programming Libraries/Databases: Node.js, React.js, Next.js, MongoDB, Flask, Flask-Admin, SQLAlchemy

Operating Systems: Linux/Unix, Windows, macOS, Android, iOS

Developer Tools: Git, Docker, VS Code, Visual Studio, Android Studio

System Design & Architecture: Memory management, Multi-threading, Pointer arithmetic, Dynamic memory allocation, Parallel processing, Pipeline optimization, Error handling/detection, Register-level optimization, Cache optimization, Distributed computing, Pattern matching algorithms, Microservices architecture

Creative Tools & Design: Adobe Illustrator, Adobe Photoshop, Adobe Lightroom, Adobe Audition, Audacity, Pro Tools, Fruity Loops Studio, Ableton, Logic Pro, Blender 3D