ETHAN VASQUEZ

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EDUCATION

Arizona State University — Tempe, AZ
Bachelor of Science in Computer Science (Software Engineering) — *Aug. 2022 – May 2026*

RELEVANT EXPERIENCE

Capstone Project — Web RISC-V Emulator — Aug. 2025 – Present
Arizona State University Capstone Project — *Tempe, AZ*

- Built a browser-native RV32I emulator with deterministic execution using Python and React.
- Developed a debugger with run/step controls, breakpoints, register inspection, and memory visualization.
- Implemented virtual I/O components (LEDs, switches, 7-segment display) that change based on input
- Contributed to Canvas LTI autograder integration and CI/CD workflows using Node/Express, Docker, and GitHub Actions.

Web-Based Digital Audio Workstation — Oct. 2025 – Present
Personal Project — *Phoenix, AZ*

- Designed and built a browser-based digital audio workstation (DAW) with a multi-track arrangement view and real-time audio playback.
- Implemented drag-and-drop tracks supporting both preloaded audio samples and simulated MIDI clips with custom drum pattern creation.
- Developed a popup MIDI drum editor that allows users to generate beats and insert them as clip objects on the timeline.
- Integrated BPM control, play/pause functionality, and session saving to enable complete song creation in the browser.

Intelligent Recipe Recommendation Platform — PennyPantry — Oct 2025 – Present
Personal Project — *Phoenix, AZ*

- Built a ASP.NET Core web app that dynamically generates meal options by analyzing ingredient lists and matching them against a catalog of 5000+ recipes in PostgreSQL
- Designed RESTful APIs for querying recipes, ingredients, and nutrition
- Achieved 85% unit test coverage, reducing runtime errors by 30%, ensuring safety and reliability
- Employed app features with eco-friendly, budget-friendly cooking habits, promoting environmental sustainability

Client Management System — June 2024 – Aug. 2024
HD Brow & SkinRx - Software Developer — *Gilbert, AZ*

- Delivered a JavaFX application with a layered MVC architecture and a PostgreSQL backend, allowing for scalable customer data management
- Designed and integrated a dynamic search engine supporting real-time queries and modifications by SQL superkeys
- Implemented secure authentication to mitigate risks of data leaks and to ensure protection of the client's data
- Built with CRUD operations and GUI integrations for efficient, user-friendly workflows

TECHNICAL SKILLS

Languages: C/C++, Java, C #, Python, TypeScript, HTML / CSS, PostgreSQL, JavaFX
Frameworks: React, React Native, .NET Core, Node.js, Next.js, Flask, JUnit
Developer Technologies: Supabase, Git, JUnit, VS Code, Visual Studio, IntelliJ
Skills: Data Structures & Algorithms, Object-Oriented Programming, Full Stack Development, Database Implementation, Software Architecture, Software Design

CERTIFICATIONS

Oracle Cloud Infrastructure AI Foundations Associate — Oct. 2025
Oracle

Cybersecurity Fundamentals — Nov. 2025
IBM SkillsBuild