Zander Barajas

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EDUCATION

San Diego State University — Aug. 2024 – 2026
Bachelor of Science in Computer Science — *GPA: 3.51*

San Diego Mesa College — Sept. 2021 – May 2024
Associate's Degree for Transfer in Computer Science

EXPERIENCE

Software Engineering Intern — Summers 2024 & 2025
Envision Engineering Inc — *San Diego, CA*

- **Summer 2025:** Led the design and deployment of a full-stack web app (Next.js, FastAPI, PostgreSQL, Docker) with GitHub Actions CI/CD on Vercel/Render, including a React/Tailwind dashboard with Chart.js to visualize project deliverables, cutting manual reporting time from around 1-2 hours per week to under 15 minutes
- **Summer 2024:** Coordinated with engineers to automate CAD workflows with Python (pyautocad, Revit API), reducing drawing cleanup, layer management, and export time by $\sim\%70$ across 25+ projects

PROJECTS

Powerlifting Meet Calculator | *C/C++, CMake, ImGui, Vulkan, Google Test, Git* — Sept. 2024 – Nov. 2024

- Developed a cross-platform calculator with data sorting, JSON import/export, lifter management, and score calculations
- Built a smooth and responsive graphical user interface utilizing ImGui with Vulkan for rendering
- Implemented asynchronous task handling and a custom multithreaded sorting method, improving performance by over 750% for large datasets
- Automated builds and testing on multiple platforms using CMake and GitHub Actions

Drone 2D Obstacle Avoidance | *Python, Gymnasium, PyGame, Stable-Baselines3, PPO* — Mar. 2025 – Present

- Led a group of four to design and implement a custom Gymnasium environment in PyGame for drone pathfinding and obstacle avoidance, setting up the GitHub repository and project structure
- Spearheaded major components including training pipeline design, evaluation scripts, and TensorBoard logging, ensuring consistent workflows across the team
- Trained PPO agent using Stable-Baselines3 with VecNormalize, Monitor, and custom reward shaping, achieving up to 72% goal success rate after 500k steps

Custom Mod Editor Feature | *C#, .NET, WPF, Reverse Engineering, Git* — May 2025 – Aug. 2025

- Integrated a custom feature into a modding toolsuite to enable importing and editing of packaged mod files
- Built logic for resource parsing and dependency mapping (Bundles, EBX, RES, Chunks), ensuring asset integrity
- Implemented binary decompression and serialization routines to handle non-standard formats and modified assets
- Overview and demonstration available on GitHub; code kept private to protect the work of mod authors

Personal Website | *HTML, CSS, Bootstrap, Git* — May 2023 – Present

- Developed a responsive multipage website using Bootstrap and Sass, ensuring mobile-first usability
- Managed source control with Git and automated deployment via GitHub Pages for continuous availability

TECHNICAL SKILLS

Concepts: Data Structures & Algorithms, OOP, Concurrency, Computer Architecture, Operating Systems, AI/ML, Full-Stack Development, RESTful API Design, CI/CD Pipelines, Cloud Deployment, Reverse Engineering
Languages/Frameworks: C/C++, C#, .NET, Python, Java, Rust, JavaScript, TypeScript, HTML/CSS, Sass, Bootstrap, Next.js, FastAPI, Springboot, PostgreSQL
Developer Tools: Git, Docker, VS Code, Visual Studio, PyCharm, CLion, IntelliJ, Rider, Eclipse, Linux, Windows, GitHub Actions, AWS, Azure, Google Cloud, Vercel, Render
Libraries: PyTorch, NumPy, Gymnasium, Stable-Baselines3, Matplotlib, pandas, Unittest, Beautiful Soup, ImGui, Google Test, Boost, React, Tailwind CSS, Chart.js, pyautocad, Revit API