

Aidan Tijerina

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EDUCATION

University of Texas At San Antonio

San Antonio, TX

Bachelor of Science in | *Electrical Engineering* | *Computer Engineering* | *Information Sys* |

Expected Graduation: Dec 2026

Relevant Coursework: C++ and Data Structures, Electronic Devices, Signals and Systems, Applied Engineering 1&2, Circuits 1&2, Microcomputer systems, Digital Systems Designs, Electromagnetic Engineering, Junior EPICS, System Programming

PROJECTS

Shopping Cart Application - C++ Project

- Developed a modular shopping cart system in C++ using object-oriented programming with classes, constructors, vectors, and a menu-driven interface featuring item management (add/remove/modify), cart calculations, and data validation to demonstrate proficiency in OOP principles and separate compilation.

MoodWave - Spotify Mood-Based Playlist Generator

- Built a full-stack web application using Python Flask and Spotify Web API with OAuth 2.0 authentication to generate personalized playlists across 11 mood categories, implementing artist similarity algorithms, real-time playback controls, and automated playlist creation features.

Music Playlist Management System - Dynamic Audio Organization Tool

- Developed a music playlist application in C++ utilizing linked lists, object-oriented programming, and dynamic memory allocation to efficiently manage song collections through pointer-based data structures and core operations (add, remove, display).

Bear Enrichment - Zoo Behavioral Enhancement Tool

- Designed an automated enrichment system simulating natural foraging behaviors for captive bears through problem-solving tasks and food rewards, promoting physical and mental stimulation in safe zoo environments.

Simon Memory Game - Interactive Logic Program

- Engineered a Simon memory game in C++ implementing randomized sequence generation, timing control, and input validation to simulate embedded system behavior while applying state-machine design and event handling principles.

PROFESSIONAL EXPERIENCE

University of Texas at San Antonio | Resident Assistant | San Antonio, TX

January 2023 - Present

- Supervise and support 30+ residents, providing peer counseling, conflict mediation, and crisis management to foster a safe and inclusive community.
- Collaborate with university staff to plan and execute programs, events, and educational initiatives that enhance student engagement and well-being.

Play-Ground Design | Leader | Laredo, TX

June 2024 - August 2024

- Directed playground improvement projects, overseeing equipment upgrades, installations, and ensuring projects were completed efficiently and on schedule.
- Effectively communicate with parents, and staff to provide updates and address any concerns

Student Assistant | Housing Employee | San Antonio, TX

August 2022 - December 2022

- Managed front desk operations, assisting residents with inquiries, resources, and housing-related issues to ensure a smooth and welcoming experience.
- Maintained and organized dormitory facilities, ensuring all equipment and supplies were functional and readily available.

LEADERSHIP & PROFESSIONAL DEVELOPMENT

Community Outreach at PELS | Co-Chair & Junior officer

January 2025 - Present

- Lead initiatives to promote electrical and computer engineering through workshops, events, and mentorship programs; collaborate with student organizations and engage industry partners to expand outreach and inspire the community.

National Society Of Black Engineers | Member

August 2025 - Present

- Participate in professional development, networking, and mentorship programs to advance technical skills, foster diversity in engineering, and engage with peers and industry leaders.

TECHNICAL SKILLS

Software & Development Tools: Visual Studio/VS Code, MPLAB, Vivado, Arduino IDE, Spyder, SQLite Studio, Wireshark, Ubuntu
Programming Languages: C, C++, JavaScript, Python, Verilog, PowerShell

Design & CAD Tools: AutoCAD, OnShape, Capture CIS, OrCAD

Hardware & Lab Equipment: Oscilloscopes, Function Generators, Power Supplies, Multimeters, Circuit Building, Breadboarding, Soldering