Luis Carlos Garcia

McAllen, Texas, United States of America

+1 (956) 735-4232 | Email | GitHub | LinkedIn

Summary

Computer Science B.S. student (GPA: 4.0) with project experience building a Pathfinding Visualizer (react + benchmarking + algorithms + data structures) and a rocket-club telemetry pipeline (string parsing + metrics extraction + FastAPI). Strong in Python/C++, data structures & algorithms, performance-minded problem solving, and Git/GitHub collaboration.

Education

University of Texas Rio Grande Valley — *Edinburg, TX*

Bachelor of Science in Computer Science, GPA: 4.0 — *August 2024 - Present*

- Relevant Coursework: Algorithms & Data Structures, OOP, Discrete Math, Operating Systems, Organization of Programming Languages

Projects

Rocket Launching Club

Rocket Telemetry Pipeline — *Feb. 2026 - Present*

- Ingested raw transmitter strings and built a robust parser to extract key telemetry fields for launch tracking and post-flight review.
- Implemented validation across stages, then structured the data for consistent downstream use across backend processing and frontend display.
- Exposed processed telemetry through a FastAPI backend endpoint consumed by a frontend dashboard for real-time visibility into rocket metrics.
- Organized telemetry fields into a consistent schema to support easier analysis, cleaner API responses, and maintainable integration.

Personal Project

Pathfinding Visualizer (Web) — *Sept. 2025 - Present*

- Implemented BFS, Dijkstra, and A* pathfinding in C++ and structured core logic so each algorithm could be visualized and compared consistently.
- Built a React web UI to display grid-based exploration and shortest-path results interactively, including controls for running scenarios.
- Focused on clean algorithm separation, predictable state updates, and clear visual feedback to make behavior differences easier to understand.
- Refined step-by-step animation timing and rendering updates to make algorithm progression easier to follow and evaluate.

Experience

High School Band Program

Assistant Percussion Director — *Summer 2024*

- Led rehearsals across multiple percussion sections, providing mentoring, instruction, and performance feedback.
- Planned rehearsal schedules, set performance goals, and coordinated practice priorities to improve consistency and execution.
- Applied leadership, communication, collaboration, and time management skills in a fast-paced team environment.

Extracurricular Activities

IEEE, Frontera Devs, Rocket Launchers, SHPE, VAMOS Student Org.

Member — *Aug. 2025 - Present*

- Participated in software-focused activities and collaborated on technical projects across engineering-focused student organizations.

Skills

Languages	C++, C, Python
Frameworks / Tools	React, Django, FastAPI, Basic Data Pipelines, Git