

Giovanni Luis Gyorody

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EDUCATION

Embry-Riddle Aeronautical University

Daytona Beach, FL

Bachelor of Science in Systems Engineering - Aerospace Concentration

May 2028

SKILLS

Engineering Software: IBM DOORS, CATIA, MATLAB, KiCad, Autodesk Fusion, Autodesk 3DS Max, Ansys, Excel

Technical: CNC Milling, CFD Simulation, Structural Analysis, PCB Design, Soldering, Systems Optimization, Cost Analysis

Systems Engineering: Requirements Management, Systems Integration & Testing, Verification & Validation, Trade Studies, Risk Assessment

Software & Data: JavaScript, React Native, Supabase (PostgreSQL), AI-assisted systems development, LLM workflow direction

PROJECT EXPERIENCE

Expedition - Founder & Sole Engineer

February 2025 - Present

- › Founded and built a production-grade mobile application as the **sole technical and product decision-maker** — architected the full system from zero with no prior coding experience, owning every layer from cloud infrastructure to 3D rendering engine.
- › Identified and **resolved critical performance bottlenecks** in a real-time 3D rendering pipeline on mobile hardware — hand-tuned geometry, occlusion culling, and per-frame timing to achieve stable output under strict hardware constraints with no postprocessing layer available.
- › Architected a hardened **Supabase back-end** to stringent security standards, implementing JWT identity verification and rate limiting to prevent abuse. Engineered idempotency guards and atomic database operations across all mutation paths to ensure 100% **data integrity**.

Project Initium - Pulse Jet Design and Production

September 2024 - Present

- › Conducted **trade studies** on combustion chamber volume, fuel flow rates, and resonance frequencies; designed body in **CATIA** with **CFD simulations** to maximize thrust output. Full body manufactured, **systems integration** (air, fuel, spark) in progress.
- › Performed feasibility assessments and redundancy testing to enhance manufacturability and reliability under Embry-Riddle safety requirements.

Launch Vehicle Project - Team Lead

September 2024 - November 2024

- › **Led a team** of 4 in the full conceptual design of a **3-stage, 134 ft launch vehicle** capable of delivering a 5,000 lb payload to LEO — authored a team charter at project outset defining roles, responsibilities, and accountability standards to ensure milestone adherence.
- › Directed weekly milestone execution and authored a **20+ page technical report** covering complex trajectory and structural analysis.
- › Orchestrated a **formal presentation**, articulating propulsion selection and cost-benefit trade-offs to an audience of peers and faculty.
- › Performed structural weight calculations for interstage adapters, nose cone fairings, bulkheads, and tanks using **MATLAB**; calculated total vehicle cost of \$23.87M and \$4,773/lb to LEO through **iterative optimization**.

Glider Design, Analysis, and Optimization Competition - 1st Place Winner

November 2024 - December 2024

- › Calculated optimal wing geometry, tail configuration, ballast placement, and center of gravity from first principles in Excel; built and competed.
- › Identified a **launch technique optimization** overlooked by all competing teams — implemented a spin-release method derived from external research that increased flight distance **178%** and secured **1st place** despite flying a non-optimal airframe.

Motif 65 - Mechanical Keyboard Design and Production

May 2024 - August 2024

- › Identified a market gap and executed the **end-to-end development** of a custom PCB in **KiCad** with clean trace routing to prevent interference.
- › Engineered a premium top-mount architecture and **successfully commercialized** the design from CAD prototype to market launch.
- › Used **Fusion 360 pressure simulation** to eliminate switch plate hot spots; resolved tolerance failures across 3 iterations with a manufacturer.

PROFESSIONAL EXPERIENCE

Society of Hispanic Professional Engineers (SHPE) - Corporate Relations Chairman

August 2024 - Present

- › Built and lead a **two-director, two-subcommittee organization** (Director of Outreach and Director of Events) responsible for all corporate pipeline development, relationship management, LinkedIn presence, and professional programming.
- › Grew the chapter's corporate contacts list by **50% in a single semester** through structured warm and cold outreach.
- › Organized and executed large-scale professional events including mixers, resume workshops, mock interviews, and info sessions; produced a campus-wide event that fed **60+ lbs of beef** — proxy for 100+ attendees — to support member travel to the SHPE National Convention.

LongHorn Steakhouse - Line Cook

July 2025 - Present

- › Management-recognized for **precision and execution under pressure**; optimized fire times to maximize throughput and table turnover.