



Fabio Lopes

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<https://throttlebuildsind-lgtm.github.io/> <https-FabioBrandaoLopes.github.io/>

EDUCATION

University of Texas Rio Grande Valley

Edinburg, TX

Undergraduate in Mechanical Engineering GPA: 3.54/4.00

WORK EXPERIENCE

Assistant manager/Technician One Stop Shop (OSS) July 2024 - Present Mercedes,TX

- Experienced and motivated automotive personnel. Skilled in diagnostics, repair, and team leadership. Assist in managing daily shop operations while performing maintenance and repairs on all vehicle systems.
- Strong problem-solving abilities, clear communication with customers. Maintaining a reputable relationship with customers, and a commitment to quality workmanship and safety. Proficient in diagnostic tools, shop management software, and workflow coordination. Dedicated to maintaining efficiency, customer satisfaction, and high technical standards in a fast-paced environment.

PROJECTS

Impact strenght of commercial PLA by percent Infill |

October-2022

- Supervised a team of 4 students in the design of 7 specimens and teh Izod testing of 3D printed parts using ASTM standard-256: Determine the Izod pendulum impact resistance pf plastics.
- Through experimental testing, I developed a deeper understanding of how infill percentage influences the mechanical strength of PLA. Using a gyroid infill pattern, it was determined that a 60% infill provided optimal strength, while 50% infill resulted in the weakest performance, in accordance with ASTM testing standards.

FSAE Pneumatic Shifter | *Automotive Engineering, Mechanical Assembly*

Sep 2025

- **Designed and modeled a complete FSAE-compliant pneumatic shifter system** in SolidWorks, following the FSAE rulebook to ensure safety, reliability, and competition legality; integrated MAC valves for precise air actuation and efficient gear engagement.
- **Built, assembled, and tested** the system using high-pressure air (HPA), achieving a proficient and consistent shifting mechanism capable of multiple shifts per tank with minimal air consumption and excellent on-car performance.
- **Validated performance and functionality** through real-world testing and calibration, demonstrating strong mechanical, pneumatic, and control integration skills, along with comprehensive documentation of design, efficiency improvements, and competition readiness.

Motorcycle Engine Breakdown and Rebuild for Go-Kart | *Mechanical Engineering* Apr 2024 - Jul 2024

- Successfully disassembled a 600cc 4-stroke inline 4 cylinder ZX6R F motorcycle engine, adjusted the timing chain, and revised engine components to revitalize the engine.
- Designed and fabricated a chassis using SolidWorks to fit and support the engine, ensuring compatibility and efficiency in handling the engine's specifications and torque.
- Implemented a customized ECU wiring system to synchronize engine firing, strategically placing components to avoid damage from heat, movement, or interference.
- Performed suspension adjustments to ensure proper calibration and range of motion, and replaced clutch rings and discs to enhance performance reliability.

SKILLS

Software

- SolidWorks,Autodesk,Fusion360 — Intermediate
- MATLAB — Intermediate
- Microsoft Excel — Intermediate

Technical Skills

- 3D Printing Material Testing
- CAD Modeling
- Data Analysis
- Welding
- Manufacturing

Languages

- English
- Spanish
- Portuguese