

BRAULIO DAVID QUINTANA

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EDUCATION

University of South Florida

Bachelor of Science in Mechanical Engineering

Tampa, FL

Spring 2026

GPA: 3.2

RELEVANT EXPERIENCE

Bulls Racing / Formula Society of Automotive Engineer

Brakes Design Lead

Tampa, FL

July 2024 – Present

- Decreased front rotor temperature by 250° Fahrenheit, by analyzing thermal performance to inform the selection of pad compounds with the ideal coefficient of friction and heat dissipation, enhancing braking efficiency.
- Simulated brake dynamics using MATLAB to model brake torque, hydraulic pressure, and pedal force, allowing for accurate prediction of maximum deceleration at 68% front brake bias ensuring optimal braking performance.
- Validated pressure sensor data to modify brake bias, analyzing results to optimize performance based on varying driving conditions, leading to improved control and vehicle handling.
- Improved and installed a fixed pedal box system with dry brake disconnects. Modeled more than 30 components in SolidWorks, ensuring precise integration with the hydraulic system.

One Lap of America – Luxury Sedan Team

Lead Mechanic Intern

South Bend, IN

March - May 2025

- Conducted in-depth research on brake pad compatibility with BMW's M Carbon Ceramic Brake System, focusing on thermal resistance, rotor wear, and performance characteristics under race conditions.
- Communicated with drivers to tune rear wing angles and ride height settings based on dynamic events, optimizing aerodynamic balance and vehicle responsiveness.
- Collaborated with the team to plan and execute a pre-competition testing session, using lap times and driver feedback to identify areas for improvement, including the removal of 250 lbs of interior weight.

Formula 1 United States Grand Prix

Intervention Marshal

Austin, TX

October 2024

- Gained in-depth knowledge of motorsport safety standards and procedures for F1 vehicle recovery.
- Rapidly responded to on-track incidents, providing critical first-response interventions.
- Assisted in maintaining safety and smooth operation of the racetrack during practice, qualifying, and race day for F1, F1 Academy, and Porsche Carrera Cup.
- Collaborated with a team of marshals to ensure adherence to safety protocols and regulations.

SRO Motorsports Group

Technician & Scrutineering Intern

Sebring, FL

September 2023

- Performed technical vehicle inspections on all GT3 and GTA racing cars for competition, comparing total weight, camber angle, tire pressure, ballast seals, and ride height allowing the cars to be race compliant.
- Delivered pit stop reports to race control and the stewards as well as messages to teams.
- Conducted safety inspections on GT4 racing cars, ensuring compliance with regulations and FIA standards.

PROJECTS

Bulls Racing Pedal Box

May 2025

- Designed and assembled complete pedal box system, integrating pedals, master cylinders, brake lines, fluid reservoirs, and over-travel switch in a master assembly to achieve efficient and compact packaging.
- Calculated maximum pedal force by determining optimal pedal ratio, ensuring effective force distribution.

Watch Tourbillon

Present

- 3D Printing a scaled-up release mechanism, to showcase automatic watch mechanisms in a more visual format.

SKILLS

SolidWorks – Proficient | **MATLAB** – Working Knowledge | **MoTeC** – Working Knowledge | **Excel** - Proficient

CERTIFICATIONS

SolidWorks Associate - Mechanical Design & Additive Manufacturing, **Google** – Project Management Certificate