Mark Menezes

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Education

Texas A&M University — College Station, TX
BSc, Mechanical Engineering, Minors in Materials Science and Mathematics, 3.5 GPA — *Aug. 2023 – May 2027*

Westwood High School — Austin, TX
***IB Diploma**, Robotics and Aerospace Engineering* — *Aug. 2019 – May 2023*

Experience

Undergraduate Research Assistant — May 2024 – Aug. 2024
Texas A&M University Robotics Automation and Design (RAD) Lab — *College Station, TX*
Full time

- Designed **Series-Elastic Actuators** for a **7 degree of freedom** space-rated robotic arm, reducing weight and size of **harmonic drive actuators** working alongside NASA engineers
- Designed and manufactured a custom wire harness testbed for a **1 million cycle oscillator** to measure wire fatigue and simulate a space-like environment
- Created a **calculator to determine the minimum bolt size** for a fixture given multiple parameters in Visual Basic

Beekeeper — March 2018 – August 2023
Great Hills Honey Company — *Austin, TX*
Part time

- Collaborated with my brother to convert a family hobby into a small business
- Implemented **weight and temperature sensors** to monitor hive health remotely
- Tended to **13 hives**, and performed annual honey extraction and jarring

Camp Counselor — May 2021 – Aug. 2021
Chaparral Ice — *Austin, TX*
Full time

- Worked over the summer, teaching campers how to ice skate
- Fostered a safe and educational environment for campers (ages 4-13)

Projects

Suspension Engineer, Formula SAE Electric Racing | *Solidworks, Optimum Kinematics* — Sept. 2023 – Present

- **Simulated, designed, and manufactured** a custom Pro-Ackermann steering system, optimizing lateral force and handling characteristics while minimizing tire scrub
- Design and manufactured a custom steering bevel gearbox for better driver ergonomics
- Designed a full-size and functional driver model to **optimize ergonomics** and **aerodynamics**
- Mapped the vehicle rollover envelope to enable the **first fully rules compliant** vehicle in the history of the program and **maximize safety**
- Designed **custom mounting tabs** to integrate electronic and aerodynamic components with the chassis

Special Events Committee, Student Engineers Council | *Organization, Leadership* — Feb. 2024 – Present

- Organized and planned events for College Engineering students
- Hosted multiple company speaker series for more than **500 students**
- Coordinated College of Engineering department informational sessions for Freshman

Technical Skills

Software: Solidworks, Optimum Kinematics, Multisim, Prusa Slicer, Onshape, Autodesk Inventor, Python
Manufacturing: 3D Printing, CNC
Languages: English (fluent), Spanish (conversational), Portuguese (conversational)
Clearances: Controlled Unclassified Information