

EDUARDO JAMES GOMEZ

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EDUCATION

Texas A&M University—Corpus Christi, Corpus Christi, TX

Expected Dec 2026

Bachelor of Science in Mechanical Engineering, Minor in Applied Mathematics

Coursework: Thermal System Design, Mechanical Systems Design, Manufacturing Processes, Circuit Analysis, Fluid Mechanics

EXPERIENCE

Mechanical Engineering Intern, DYWIDAG Megaprojects (DSI), Portland, TX

Jun 2025 – Aug 2025

- Inspected and function-tested the hydraulic pumps, winches, and jacks used to stress stay cables on the C.C. Harbor Bridge.
- Repaired faults and documented repairs/parts required to get equipment ready for transport to the next Stay Cable Bridge project in Galveston.

Civil Engineering Intern, DYWIDAG Megaprojects (DSI), Corpus Christi, TX

May 2024 – Dec 2024

- Mounted, calibrated/ troubleshoot DANA force sensors on the stay cables and logged the loads that went into the project record.
- Stressed strands with hydraulic jacks to the specified load, then wrote the lift-off and stressing reports for engineering review.
- Worked day to day with engineers from several countries on the Harbor Bridge stay-cable crew.

Camp Counselor, Camp Cho-Yeh, Livingston, TX

May 2026 – Jul 2026

- Lived in a cabin with middle- and high-school campers and handled the daily schedule, activities, and night checks.
- Led outdoor sessions for groups of 10 to 15 and kept them on track when plans changed or conflicts came up.

PROJECTS

Senior Capstone: Automotive Seat Ventilation Hole-Pattern Optimization (Hyundai)

Jan 2026 – Present

Advisor: Dr. Park and Dr. Hsiao

- Redesigning the seat perforation pattern to increase airflow and keep the occupant cooler.
- As structural lead, designed and built the wooden test chair the team uses for airflow trials.
- As electronics and programming lead, wired the blowers and sensors and programmed the Raspberry Pi 4 that runs the rig.

Jeep Wrangler JL Steering Rebuild and Suspension Lift (personal)

2020 – 2023

- Traced a death wobble through the front end and replaced the tie rod, drag link, track bar, and ball joints.
- Added a Synergy track bar bracket and a sector-shaft brace to cut flex at the aluminum steering box.
- Installed a 2-inch lift and a high-clearance stabilizer, then mounted a steel bumper and wired the lights to a fused switch panel.

Home Server and Home Automation (personal)

2025 – Present

- Built a Raspberry Pi 4 Docker server (Home Assistant, Nextcloud, Ollama) and upgraded to a ZimaBlade for Jellyfin and AdGuard.
- Fixed SSH dropping after a static IP change and Docker pulls failing, and moved docker containers to other servers.
- Connecting ESP32 sensors and a Meshtastic LoRa node to Home Assistant.

SKILLS

Engineering software: Autodesk Inventor, AutoCAD, MATLAB, Excel

Shop and field: Lathe, drill press, band saw, chop saw, circular saw, jigsaw, soldering, impact wrench, hydraulic jacks and pumps

Programming and embedded: Python, Arduino/ESP32, Raspberry Pi, Linux, Docker, Home Assistant

Languages: English, Spanish

LEADERSHIP & ACTIVITIES

Vice President, TAMUCC Sailing Club & Team

Aug 2023 – Dec 2025

- Raced 3–4 regattas a semester on a nine-sailor team and taught new members how to sail and race.

SHPE member since 2023, ASME member since 2024

Earlier: Handyman in Laredo (roofing, electrical, plumbing, carpentry), 2019–2022. Lifeguard at Laredo Country Club, summer 2022. Shadowed engineers at the City of Lake Jackson (water projects) and architects at Sepulveda Associates, summer 2023.

CERTIFICATIONS & HONORS

OSHA 30-Hour Construction (2024), Eagle Scout (2018), IRB human-subjects research training for capstone (2026)