Jayson Mendoza

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EDUCATION

The University of Texas at Arlington **Expected Date: December 2027**

B.S. in Mechanical Engineering | Minor in Business Administration **GPA: 3.54**

Member: Society of Hispanic Professional Engineers (SHPE), inSTEM, The Vertical Flight Society

TECHNICAL SKILLS

Design & CAD/PLM: SolidWorks**,** Catia, ENOVIA, GD&T, Bill of Materials creation
Testing & Instrumentation: Sensor calibration, Functional Testing, Data Acquisition
Programming: MATLAB, Arduino, Python, C, SQL
Productivity Tools: Microsoft 365 Suite
Analysis and Testing: ANSYS, Motion Simulation, Stress Analysis, Finite Element Analysis

PROJECTS

Custom Quadcopter | *6 DOF Control, Finite Element Analysis* Jan 2026 - Present

- Built a physics based **MATLAB simulation** to verify stable hover, control response, and thrust requirements before hardware fabrication.
- Designed a custom quadcopter frame in **SolidWorks** and evaluated strength, stiffness, and vibration behavior using **finite element analysis** using **ANSYS.**
- Performed **mass budgeting** and **inertia calculations** from CAD to confirm propulsion sizing and overall flight feasibility.

pH Monitoring System | *Fluid Systems, Mechanical Design, Instrumentation* July 2025 - Oct 2025

- Designed a pH monitoring system using an **Arduino** and a **pH probe** for water quality analysis.
- **Implemented analog signal conditioning**, calibration routines, and ADC processing to convert raw sensor output into **stable**, calibrated pH measurements.
- **Designed** and **fabricated** a custom enclosure, mounted electronics and peristaltic pumps, and routed wiring and tubing to ensure **mechanical stability and electrical isolation**.
- Performed **calibration**, **functional testing**, and **troubleshooting** to validate measurement accuracy, repeatability, and system reliability under operating conditions.

Autonomous Tennis Ball Retrieval Robot | *SolidWorks, GD&T, COTS, Analysis* Jan 2025 - May 2025

- Designed and built a robot using **Arduino** to autonomously capture a **free falling tennis ball** and **transport it 6 feet** into a tray within **30 seconds**.
- Created custom mechanical parts in **SolidWorks** with **GD&T** compliant engineering drawings; fabricated components via **3D printing**.
- Integrated **COTS components** (gears, bearings, fasteners) for **motion transmission** and **structural support**, adhering to strict project constraints.
- Performed **finite element analysis (FEA)**, **motion simulation**, and **stress analysis** to validate structural performance and ensure safe, repeatable operation without damaging the ball or the environment.

WORK EXPERIENCE

Walmart May 2024 - Oct 2024

Online Grocery Associate *North Richland Hills, TX*

- Ranked in the **Top 5** of ~70 associates by maintaining **120+** picks per hour in a high volume environment.
- Improved **customer satisfaction** by providing accurate substitutions and resolving out of stock issues.
- Reduced **loss & shrinkage** by securing fragile/high value items and maintaining organized displays.

Best Buy May 2023 - Oct 2023

Retail Sales Associate *Hurst, TX*

- Increased membership sign ups by **20%** through clear communication of benefits and services.
- Processed **50+ daily returns and exchanges** with full compliance, contributing to a **95% customer satisfaction rating**.
- Consistently **exceeded sales targets** by recommending warranties and financing options.