Jayson Mendoza

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TECHNICAL SKILLS

Design & CAD/PLM: SolidWorks**,** Catia, ENOVIA, GD&T, Bill of Materials creation
Programming : MATLAB, Arduino, Python, C, SQL
Mechanical: 3D Printing, Prototype Assembly
Analysis and Testing: Motion Simulation, Stress Analysis, Sensor Calibration

PROJECTS

Haptic Glove for Virtual Interaction | Work in Progress July 2025 - October 2025

- Designed and fabricated a **wearable haptic feedback** glove using **flex sensors and vibration motors** to simulate tactile **sensations** in virtual environments.
- Integrated **Arduino controller** with custom circuitry to process hand motion data and trigger **haptic responses**.
- Programmed system logic in **C**, enabling **real-time mapping** of finger movements to digital interactions.
- Collaborated cross-functionally with **electrical and software** functions to integrate s**ensor hardware and data visualization** components.
- Wrote documentation of design steps and system logic to support ongoing **development**.

Autonomous Tennis Ball Retrieval Robot | *SolidWorks, GD&T, COTS, 3D Printing* January 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 **motion simulation** and **stress analysis to validate** performance and ensure safe, **repeatable operation** without damaging the ball or the environment.

Robotic Project: Rod Retrieval Robot | *Sensor Calibration, EV4 Software, Mechanical Design*
October 2024 - December 2024

- Led a **team of five** in designing, building, and coding a LEGO MINDSTORMS EV3 robot to **retrieve and transport rods**, demonstrating strong leadership and collaboration skills.
- Developed and implemented code using **EV4 software**, ensuring **precise** robot **movements**, **alignment**, and successful rod **retrieval** and **placement**.
- **Troubleshoot Bluetooth and sensor issues**, improving the **speed and reliability** of operations.
- Applied **mechanical design** and **sensor calibration techniques** to enhance **stability and task execution**.

WORK EXPERIENCE

Walmart May 2024 - September 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 - October 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, financing options, and product solutions.

EDUCATION

The University of Texas at Arlington **Expected Date: May 2027**
Honors B.S. in Mechanical Engineering | Minor in Business Administration
Member: Society of Hispanic Professional Engineers (SHPE), inSTEM, The Vertical Flight Society