

DAVID MENDOZA

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EDUCATION

University of Houston, Cullen College of Engineering — Houston, Texas

Bachelor of Computer Engineering Technology | Dean's List

December 2026

PROJECTS

Reaction Timer

- Engineered a complete digital reaction timer on an FPGA, designing the system architecture to accurately measure and display human response time to a visual stimulus with millisecond precision.
- Authored and synthesized modular VHDL/Verilog code to create essential logic circuits, including a finite state machine (FSM) to control the timer's sequence, a high-frequency counter for precise measurement, and a BCD-to-7-segment display drive.

Tiny-VGG

- Developed a Convolutional Neural Network (CNN) based on the VGG architecture using PyTorch and CUDA for accelerated training on an NVIDIA GPU.
- Optimized hyperparameters to achieve 80% accuracy on image classification tasks, demonstrating proficiency in deep learning fundamentals and computer vision.

Line-Following Car

- Reduced project time and cost by 20% by implementing an optimized PID control algorithm and leading debugging efforts within a team of four.
- Mentored team members in ICs, algorithms, Arduinos, and coding, ensuring proper project completion and adequate team collaboration.

Self-Balancing Robot

- Engineered a closed-loop control system using C++ and a PID algorithm to continuously adjust the motor speed and direction, maintaining the upright equilibrium of a two-wheeled chassis.
- Integrated an IMU (Inertial Measurement Unit) to capture accelerometer and gyroscope data, implementing sensor fusion (Complementary Filter) to reduce signal noise and ensure precise real-time stability.

SKILLS

- Programming Languages:** Python, Verilog, C, C++, Web Development (HTML, CSS, JavaScript).
- Software & Tools:** MATLAB, Multisim, LTspice, LabVIEW, Fusion 360, Quartus, Excel, Visual Studio Code, Git
- Technical Skills:** Circuit Design, System Integration, Data Analysis, Debugging & Troubleshooting, Prototyping
- Languages:** Bilingual (English/Spanish).

EMPLOYMENT HISTORY

Paint Associate

The Home Depot, Houston, Texas

July 2020 - Present

- Managed inventory to ensure the department was consistently organized and fully stocked, reducing stockouts and improving operational efficiency.
- Acted as a key bilingual (English/Spanish) communicator, translating complex technical product specifications for professional (B2B) clients and retail customers to ensure project requirements were met.