Eric D. Delgado

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Education

Massachusetts Institute of Technology - Cambridge, MA — Expected May 2026

- Candidate for Bachelors in Mechanical Engineering and Computer Science

Marquette University High School - Milwaukee, WI — May 2026

- Graduated Salutatorian

Relevant Experience

Research Intern, MIT Media Lab - Biomechatronics Lab - Cambridge, MA — Jan. 2024 – Present

- Develop a humanoid walking plant model in Drake for integration with a Model Predictive Controller, optimizing the gait of an ankle-foot prosthetic based on specified mass and walking speed
- Implement "self-learning" using Bayesian optimization and other deep learning techniques to automatically tune the controller for unique individual walking gaits
- Assist supervisor in conducting walking trials with human subjects to validate results

Research Intern, MIT Media Lab - Fluid Interfaces Lab - Cambridge, MA — Sep. 2023 – Dec 2023

- Processed EEG data into meaningful engagement and focus metrics, contributing to better understanding cognitive behaviors in subjects with neurological disabilities
- Redesigned and manufactured a pair of electroencephalograph glasses and companion haptic feedback bracelet for tracking attention and engagement patterns in individuals with neurological disabilities

Research Intern, Friedrich Alexander University - N^2 Lab - Erlangen, Germany — Jun. 2023 - Aug. 2023

- Developed an actuation system with a 33% reduced number of motors while preserving all degrees of freedom for four fingers of a myoelectrically controlled bionic hand prosthetic
- Coded and implemented a CAN bus communication system facilitated by Arduino nodes to simultaneously and independently actuate tendons of a hand prosthetic
- Designed and fabricated a damping mechanism meant to simulate muscular stretch during flexion and extension of digits

IS Intern, North Shore Bank - Brookfield, WI — Jun. 2022 – Aug. 2022

- Restructured and streamlined daily data organization operations by creating SQL look-up tables and writing code in Java to facilitate customer information modification
- Ensured information security by wiping devices (e.g. Cisco switches) and modifying permissions on remote devices to patch vulnerabilities (SNMP, Telnet, Bonjour, etc.)

Extracurriculars

MIT Solar Electric Vehicle Team - Cambridge, MA — Sep. 2023 – Present

- Design and manufacture a solar powered vehicle that competes in prestigious national and international competitions (American Solar Challenge)
- Develop and refine the rear suspension subsystem by programming HAAS toolpaths, CAD-ing, water jetting, and welding components for final vehicle assembly.

Leadership

Science Olympiad Captain - Milwaukee, WI — Sep. 2020 – May 2022

- Competed nationally in a variety of events: Automotive and Experimental Design, Virology, Chemistry, Cipher Decoding
- Organized multiple "home" tournaments and scheduled 24 competitors bi-weekly as captain of two Junior Varsity teams

Skills and Awards

Languages: English (native), Spanish (native), German (fluent),
Computer/Programming: Python, Java, MATLAB, Julia, C, Arduino, Fusion 360, SolidWorks
Awards/Honors: National German Exam Gold Medalist, Outstanding Achiever: DSSV German Essay Contest, National Hispanic Recognized Scholar, AP Distinguished Student