

Alexander Montesinos

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EDUCATION

- University of Michigan Dearborn** - BS, Computer Engineering MAY 2029 (EXPECTED)
- Wolverine Pathways Scholar
 - Multi-variable Calculus, Matlab, Fusion 360, Arduino
- Detroit Cristo Rey High School** JUNE 2025
- GPA: 3.5 + Dual Enrollment
 - Calculus 1 at UDM, Calculus 2 at WCCCD, AP & Honors Student, National Honors Society, Varsity Wrestler
 - MIT Introduction to Technology, Engineering, and Science (MITES) - Summer '24 Alumni

WORK EXPERIENCE

- Orange Sparkle Ball, Inc.** - Detroit Operations Associate JULY 2025 - PRESENT
- Oversee robot operations in Downtown Detroit and Eastern Market to insure successful pickups.
 - Collaborate with Ottonomy.io engineers in troubleshooting robot performance issues.
 - Assisted in recruiting and onboarding Detroit Operations Associates to support scaling robot pickups.
- University of Michigan Engineering Zone** - Software & Electrical Mentor JUNE 2025 - PRESENT
- Mentor high school students in Java robotics programming (WPILIB, REV Swerve drive, CANbus) and guide students into integrated encoders and motor controllers for 125lbs competition robots.
 - Lead students through wiring, troubleshooting, and hardware integration with CAN bus, encoders, and motor controllers.
 - Guided students on using AdvantageScope for live data visualization, code simulation, and logging diagnostics.
- General Motors (Global Manufacturing Electrical & SDV)** - AMEC Intern OCT 2023 - MAY 2025
- Sole intern supporting the Automotive Manufacturing & Electrical College (AMEC) team in bettering first time quality.
 - Supported multiple training stand builds for hands on learning with wire harnesses, terminals, and CPAs.
 - Assisted onboarding of 70+ Manufacturing & SDV engineers into AMEC curriculum.
- iCode School Novi** - Senior Instructor JUNE 2022 - AUG 2023
- Taught 100+ students Python, Java, HTML/CSS, vex robotics, 3d printing, electronics, game development, and astronomy.
 - Contributed to curriculum adaptations for improved classroom engagement and easier class instructions for future instructors.

EXTRACURRICULAR

- FIRST Robotics Competition Team 5577** - Co-Captain AUG 2021 - MAY 2025
- Led team of 10+ students and oversaw all software, electrical, and pneumatics systems integration.
 - Led the implementation of team's first swerve drive system with functional swerve kinematics, path planning, and closed-loop control and developed autonomous routines using swerve drivetrain odometry and robot localization via AprilTags and Limelight which enabled real-time field position tracking.
 - Developed automated command sequences for dynamic shooting calculations and auto alignment using AprilTag recognition and retroreflective tracking.
 - Ran team hosted workshops and summer camps on programming and electrical systems for middle and high school students.

VOLUNTEER WORK

- FIRST Robotics** - Control Systems Advisor NOV 2021 - PRESENT
- Serve as a control systems advisor at *FIRST* middle and high school robotics competitions, providing guidance and technical support to teams.
 - Troubleshoot and resolved complex system issues in real-time during competitions, helping teams overcome challenges and perform at their best.
- Motor City Alliance** - Controls Specialist AUG 2021 - MAY 2025
- Student lead and founding member of nonprofit "The Motor City Alliance" in sustaining robotics programs in Detroit with over 90+ elementary, middle, and high school teams.
 - Assisted in coordinating over 50+ volunteers for key events like kickoffs, workshops, and competitions.
 - Provided hands-on guidance to middle school robotics teams on programming and electrical troubleshooting.
- FIRST Robotics** - Student Mentor SEP 2017 - NOV 2024
- Volunteered as a mentor for the *FIRST* robotics team at Escuela Avancemos Elementary School (*FLL*).
 - Mentored Holy Redeemer's *FIRST* robotics middle school team (*FTC*).

AWARDS

MITES Top Team in Electronics (2024), *FIRST* Dean's List Award Semi-Finalist (2024), *FIRST* Young Student Mentor Award (2023)

SKILLS

Java, VS Code, Git, Matlab, MS Office, Windows, Google Workspace, Version Control, Self Learning, Bilingual: English & Spanish