

Alexander Montesinos

montesin@umich.edu | alex-montesinos.github.io/portfolio | linkedin.com/in/a-montesinos

EDUCATION

University of Michigan Dearborn - BS, Computer Engineering MAY 2029 (EXPECTED)
• Wolverine Pathways Scholar
• Multi-variable Calculus

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 Lead JULY 2025 - PRESENT
• Oversee all robot operations in Downtown Detroit and Eastern Market to insure successful pickups.
• Assisted Ottonomy engineers in troubleshooting robot performance issues.
• Assisted in recruiting and onboarding Detroit Operations Associates to support scaling robot pickups.
• Authored and published organization blog posts highlighting vendor interactions and robot sensor technology.

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