Alexander Montesinos

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EDUCATION

University of Michigan Dearborn - BS, Computer Engineering — MAY 2029 (EXPECTED)
- Wolverine Pathways Scholar

Detroit Cristo Rey High School — JUNE 2025
- GPA: 3.5
- Dual Enrollment (UDM & 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. - Innovation Intern — JULY 2025 - PRESENT
- **Oversaw Downtown Detroit robot pickups** for safe handoffs of materials between customers and robots.
- Documented operational failures and completed Airtable's after each scheduled pickup.
- Assisted with impact data tracking and dashboard maintenance, flagging inconsistencies for follow-up.
- Supported both the innovation and strategy team in project management and logistics.

University of Michigan Engineering Zone - Software & Electrical Mentor — JUNE 2025 - PRESENT
- Mentor high school students in Java foundational programming and guide students into applied robotics coding using WPILib, REV Swerve Drive, and multiple mechanisms.
- 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
- **Only intern to support the Automotive Manufacturing & Electrical College (AMEC)** team in vehicle first time quality.
- Supported the training stands build for hands on learning with wire harnesses, terminals, and CPAs.
- Assisted onboarding Electrical & SDV new hires and guided them through an introduction to the AMEC curriculum.

iCode School Novi - Senior Instructor — JUNE 2022 - AUG 2023
- Taught beginner to intermediate courses in Python, Java, HTML/CSS, and Scratch to elementary and middle school students.
- Led and adapted electronics and hardware courses in breadboarding, circuits, and Arduino projects.
- Instructed classes on game development, vex robotics, 3d-printing, 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 a group 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 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

Bilingual: English & Spanish, Java, MS Office Windows, VS Code, Git, Version Control, Open-source Collaboration, Self Learning