

Josue Balcarcel

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SUMMARY

Mechanical Engineering student at CWRU with hands-on experience in CAD design, prototyping, and manufacturing across trailer manufacturing, robotics, and combat robot applications. Proficient in SolidWorks (CSWA Certified), Fusion 360, and AutoCAD. Seeking a mechanical engineering internship to apply design and manufacturing expertise.

EDUCATION

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| Case Western Reserve University <i>Bachelor of Science in Mechanical Engineering, Minor in Business Management</i> | Cleveland, OH Aug 2023 – May 2027 |
| Universidad Carlos III de Madrid <i>CWRU Global Education Program</i> | Madrid, Spain Sep 2025 – Dec 2025 |

TECHNICAL SKILLS

CAD & Design: SolidWorks (CSWA Certified), Fusion 360, Autodesk Inventor, AutoCAD, Assembly Design, Drafting
Manufacturing: 3D Printing, CNC Machining, Lathe Operation, Rapid Prototyping, Assembly, GD&T, Drawing Interpretation, BOM Management, Engineering Change Orders (ECOs)
Electrical Testing: Oscilloscope, Digital Multimeter, Function Generator, Power Supply
Software & Programming: MATLAB, Microsoft Office Suite, Google Workspace
Languages: English (Native), Spanish (Native)

EXPERIENCE

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| Mechanical / Manufacturing Engineering Intern <i>Cottrell Trailers</i> | May 2024 – Aug 2024 Gainesville, GA |
| <ul style="list-style-type: none">Drafted CAD drawings for trailer components and non-skid tape layouts in AutoCAD, supporting weekly trailer productionDesigned and assembled manufacturable parts in Autodesk Inventor, reducing assembly time by 15% on targeted componentsInspected trailers weekly to identify discrepancies and proposed design improvements that reduced recurring defects by 17%Maintained accurate BOMs and executed Engineering Change Orders (ECOs) to keep production documentation current | |
| Mechanical Engineering Intern <i>GuardBot Inc.</i> | May 2023 – Aug 2023 Stamford, CT |
| <ul style="list-style-type: none">Created CAD models and production-ready drawings for spherical robots in Fusion 360, supporting prototype integration3D printed, post-processed, and prepared mechanical components for testing, reducing prototype lead time by 13%Operated and maintained multiple 3D printers, minimizing downtime through routine maintenance and calibration | |

PROJECTS

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| Dual-Axis Solar Tracking System <i>SolidWorks, GD&T, Prototyping</i> | Jan 2025 – Apr 2025 |
| <ul style="list-style-type: none">Co-developed a dual-axis solar tracking system in SolidWorks, increasing solar capture efficiency by an estimated 34% over fixed-panel baselinesProduced GD&T-compliant technical drawings for mechanical components, including drive assemblies and structural mounts | |
| NHRL Combat Robotics <i>Team Leader & Competitor, 3lb Weight Class</i> | Dec 2022 – Present |
| <ul style="list-style-type: none">Engineered a 3lb combat robot in Fusion 360, integrating mechanical design, electronics, and brushless motor systemsApplied rapid prototyping through 3D printing and CNC machining to iterate weapon and chassis designs between competitions | |
| CASE Rocket Team <i>Team Member</i> | Aug 2023 – May 2024 |
| <ul style="list-style-type: none">Designed and assembled an L1 certification rocket to NAR specifications, contributing to mechanical fabrication | |

LEADERSHIP & INVOLVEMENT

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| Resident Assistant <i>Case Western Reserve University Madrid Program</i> | Sep 2025 – Dec 2025 Madrid, Spain |
| <ul style="list-style-type: none">Supported 12 study abroad students as a resource for cultural adjustments and logistics in a bilingual environment | |
| Lead Pianist & Drummer <i>IPUL (United Pentecostal Latin American Church)</i> | Jan 2022 – Present |
| <ul style="list-style-type: none">Volunteer as lead pianist and drummer, coordinating with worship team to deliver weekly services | |