

Jossue Sarango

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EDUCATION

New Jersey Institute of Technology

Bachelor of Science in Mechanical Engineering, Minor in Electrical Engineering GPA: 3.4

Newark, NJ

Expected: May 2028

Relevant Coursework: Kinematics of Machinery, Engineering Design, Dynamics, Mechanics, Differential Equations, Calculus III

PROJECTS

Vehicle Frame Stress Analysis and Optimization | SolidWorks Simulation, FEA, CAD Modeling

Oct 2025

- Modeled and analyzed chassis stress distribution under variable load cases using SolidWorks Simulation, identifying high-stress nodes and optimizing tube geometry and joint reinforcement to reduce overall mass while maintaining structural integrity

Autonomous Vehicle Navigation Simulator | Python, Pygame, NumPy, Matplotlib

Oct 2025

- Developed a simulation framework to model autonomous vehicle path planning, control, and obstacle avoidance, applying A* algorithm with real-time visualization for dynamic environments.
- Applied systems engineering and verification planning to validate navigation accuracy and collision-free trajectory generation, emulating intelligent vehicle integration testing.

Linear Actuator Driven Hand Prosthetic | SolidWorks, Ultimaker Cura, 3D Printing

Dec 2024

- Led product development for a 15-component assembly through 8 CAD design iterations using FEA, developing technical documentation and optimizing manufacturing parameters for 3D printing to reduce material usage by 22% and print time by 18%.
- Developed test methods for verification and validation through 25+ load cycle protocol at 10N, 25N, and 40N forces using basic data acquisition systems and instrumentation, identifying 3 critical failure modes and documenting results in engineering reports.

EXPERIENCE

Chassis Design & Testing Engineer - Vehicle Systems Engineering

Sep 2025 – Present

Baja Society of Automotive Engineers (SAE) at the New Jersey Institute of Technology

Newark, NJ

- Performed finite element analysis (FEA) through 12+ design iterations to evaluate roll cage performance under 15g front, 10g side, and 8g rear impacts, identifying stress concentrations and achieving a 12% weight reduction with 1.5x factor of safety.
- Executed system-level dynamic load analysis to resolve suspension–chassis integration conflicts, validating 8 mounting configurations and implementing corrective measures to eliminate frame cracking with 85% predicted reliability under 3g lateral loads.
- Collaborated cross-functionally to ensure vehicle integration, structural validation, and system robustness across drivetrain and chassis subsystems.

Quality Analysis Intern (Regional Public Affairs Team)

May 2025 – Aug 2025

PSEG (Public Service Enterprise Group)

Trenton, NJ

- Designed and automated a data quality and reporting system to consolidate 200+ infrastructure performance metrics across 70+ municipalities, reducing reporting cycle time by 95% and improving data traceability for engineering and public operations teams.
- Developed and implemented a standardized reliability protocol linking engineering operations with public stakeholders, enabling faster root-cause communication during high-impact grid disruptions and improving emergency response time by 85%.
- Built an integrated project quality tracking dashboard for electrical infrastructure (substations, 69kV circuits), improving visibility into field performance metrics and facilitating feedback loops between engineering, reliability, and operations teams.

Webmaster & Software Developer

Sep 2025 – Present

Society of Hispanic Professional Engineers (SHPE) at the New Jersey Institute of Technology

Newark, NJ

- Engineered a responsive React/Next.js platform improving load times by 70% and enhancing accessibility to 98% mobile compatibility.
- Optimized digital systems by restructuring 500+ files and automating member access, reducing onboarding time by 60%.

LEADERSHIP

New Jersey Governors Fellow

June 2025 – Aug 2025

Center for Hispanic Policy, Research, & Development (CHPRD) with the State of New Jersey

Trenton, NJ

- Led a 6-person team through an 8-week strategic planning project, conducting 20+ stakeholder interviews and analyzing 5 years of organizational data to develop a HISPA engagement framework projected to expand reach by 40%.

Information Technology Committee Member

Oct 2025 – Present

American Latino Professionals for America (ALPFA) at the New Jersey Institute of Technology

Newark, NJ

- Supported technical infrastructure for 60+ members, ensuring reliable digital operations for professional development programming.

HISPA Role Model

June 2025 – Aug 2025

Hispanics Inspiring Students' Performance and Achievement

Elizabeth, NJ

- Served as a role model and mentor for first-generation Hispanic students, navigating college readiness and future STEM pathways.

TECHNICAL SKILLS

Engineering Software: SolidWorks (2D/3D CAD, FEA, Assembly), AutoCAD, CATIA (Learning), 3D Modeling, Product Design

Analysis & Validation: Finite Element Analysis, Vehicle Dynamics Modeling, Test Planning & Execution, Design Verification

Engineering Disciplines: Powertrain Systems, Mechanical Design, Prototyping, Verification & Validation, Technical Documentation

Programming: Python, MATLAB, JavaScript, TypeScript, HTML/CSS, C++ (Learning)

Focus Areas: Automotive Manufacturing, Vehicle Design & Development, Quality Engineering, Robotics, Research & Development

Languages: English (Native), Spanish (Fluent), Mandarin (HSK 2), Portuguese (Conversational)