

Jossue Sarango

973-274-5136 | jossuesarango1@gmail.com | [linkedin.com/in/jossue-sarango](https://www.linkedin.com/in/jossue-sarango) | github.com/sjossue | sjossue.github.io

EDUCATION

New Jersey Institute of Technology
Bachelor of Science in Mechanical Engineering, Minor in Electrical Engineering GPA: 3.4
Relevant Coursework: Kinematics of Machinery, Engineering Design, Dynamics, Mechanics, Differential Equations, Calculus III

Newark, NJ
Expected: May 2028

PROJECTS

Vehicle Frame Stress Analysis and Optimization | *SolidWorks Simulation, FEA, CAD Modeling*
• 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*
• 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*
• 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
Baja Society of Automotive Engineers (SAE) at the New Jersey Institute of Technology
• 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 1.5× 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)
PSEG (Public Service Enterprise Group)
• 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
Society of Hispanic Professional Engineers (SHPE) at the New Jersey Institute of Technology
• 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
Center for Hispanic Policy, Research, & Development (CHPRD) with the State of New Jersey
• 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
American Latino Professionals for America (ALPFA) at the New Jersey Institute of Technology
• Supported technical infrastructure for 60+ members, ensuring reliable digital operations for professional development programming.

HISPA Role Model
Hispanics Inspiring Students' Performance and Achievement
• 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)