

# Natalia Cortez

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## SUMMARY

Mechanical Engineer committed to improving the performance of vehicles. Extensive experience in testing noise and vibration metrics for prototypes. Skilled at developing plans, analyzing data, and collaborating with cross-functional teams. Experienced in conducting detailed evaluations that support innovative automotive advancements. Passionate about using analytical insights to optimize vehicle dynamics, ensuring high-quality outcomes while working strategically to achieve goals aligned with departmental objectives.

## EDUCATION

**Bachelor's Degree in Mechanical Engineering** 2025  
University of California, Los Angeles   GPA: 3.8 Los Angeles, CA  
*Coursework: Engineering Dynamics, Vehicle Noise Analysis, Mechanics of Materials, Data Acquisition Techniques*

## TECHNICAL SKILLS

- Data Analysis Tools:** MATLAB, LMS Test.Lab, Microsoft Excel
- Testing Equipment:** Data Acquisition Systems, Sensors, Accelerometers
- Technical Documentation:** Reports, Presentations, Technical Manuals
- Communication Platforms:** Email, Microsoft Teams, Presentation Software
- Project Management Tools:** Trello, Asana, Google Workspace
- Benchmarking Techniques:** Performance Metrics, Ride and Handling Evaluation, Subjective Assessments
- Statistics Software:** SPSS, JMP, R
- Vehicle Test Procedures:** Noise Testing, Vibration Analysis, Corner Weighting
- Quality Assurance Methods:** Data Validation, Error Analysis, Reporting Standards
- Presentation Tools:** PowerPoint, Poster Design Software, Graphing Applications

## SKILLS

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|--------------------------------|----------------------------|--------------------------------|-----------------------------------|
| • Vehicle Dynamics             | • Data Acquisition Systems | • Ride and Handling Assessment | • Stakeholder Engagement          |
| • Noise and Vibration Analysis | • Technical Documentation  | • Benchmarking Performance     | • Sound Quality Analysis          |
| • MATLAB                       | • Project Management       | • Root Cause Analysis          | • Modal Analysis                  |
| • LMS Test.Lab                 | • Microsoft Office Suite   | • Reporting                    | • Experimental Testing Techniques |

## EXPERIENCE

**Research Assistant** January 2025 - August 2026  
University Research Lab Los Angeles, CA

Supported research efforts focusing on noise and vibration analysis for prototype vehicles. Led test plan development and coordinated rigorous experimental investigations with a multidisciplinary team. Focused on delivering quality data to improve vehicle performance interpretations and formulations.

- Conducted experimental evaluations to assess vehicle dynamics, specifically targeting noise and vibration issues.
- Analyzed collected data using MATLAB and LMS Test.Lab, deriving actionable insights to inform design adjustments.
- Managed logistics for ride-and-drive events, facilitating hands-on assessments of vehicle prototypes among peers.
- Served as a liaison between faculty and student teams, benchmarking competitor models against current projects.
- Presented impactful findings at university symposiums, reinforcing communication skills and technical expertise.
- Collaborated on documentation efforts for internal reports highlighting research outputs and methodologies.

**Capstone Project Developer** September 2024 - December 2024  
University Project Los Angeles, CA

Executed a capstone project centered around analyzing vehicle tire configurations' effects on performance. Focused on the practical application of vehicle dynamics principles to deliver insightful results.

- Designed a robust methodology to examine ride and handling performance variances due to different tire setups.
- Conducted literature reviews that laid a strong theoretical foundation for experimental work.
- Employed data acquisition systems to collect performance metrics, enhancing overall understanding of limitations.
- Developed strategic recommendations based on root cause analyses of observed performance challenges.
- Summarized project insights into comprehensive reports demonstrating clear technical writing proficiency.

- Communicated project outcomes effectively to faculty and industry representatives.

**LEADERSHIP & AWARDS**

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- Dean's List, University of California, Los Angeles, 2024
- Recipient of the Mechanical Engineering Scholarship, 2023

**CERTIFICATIONS**

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- Certified Engineering Intern 📅 2025
- AutoCAD Certification 📅 2024

**PROFESSIONAL AFFILIATIONS**

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- Member, Society of Automotive Engineers, 2023 – Present
- Volunteer, Engineering Outreach Program, 2022 – Present

**LANGUAGES**

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- English (Native)
- Spanish (Proficient)

**ADDITIONAL INFORMATION**

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**Work Status** : Authorized to work in United States. No sponsorship required.

**REFERENCES**

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AVAILABLE ON REQUEST