

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
University of California, Los Angeles GPA: 3.8
Coursework: Engineering Dynamics, Vehicle Noise Analysis, Mechanics of Materials, Data Acquisition Techniques

2025
Los Angeles, CA

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
University Research Lab

January 2025 - August 2026
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
University Project

September 2024 - December 2024
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

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

CERTIFICATIONS

- Certified Engineering Intern 📅 2025
- AutoCAD Certification 📅 2024

PROFESSIONAL AFFILIATIONS

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

LANGUAGES

- English (Native)
- Spanish (Proficient)

ADDITIONAL INFORMATION

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

REFERENCES

AVAILABLE ON REQUEST