

Natalia Cortez

Vehicle Test and Development Engineer I

 (213) 555-0176  natalia.cortez@example.com  linkedin.com/in/nataliacortez  Los Angeles, CA 90017

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  2025  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

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