

# Juan Carey

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📍 Springfield, IL, 62704

## SUMMARY

Seasoned Electro-Mechanical Engineer with eight years dedicated to sensor development and precision instrumentation. Proven capability in leading cross-functional teams for the manufacturing of sophisticated instruments, including advanced gyroscopes and accelerometers. Experienced in MEMS technologies backed by strong applied mathematics and physics expertise. Passionate about mentoring less experienced engineers, believing in collaborative innovation that enhances overall team performance. Focused on delivering production-quality devices while ensuring compliance with rigorous performance standards. Committed to continuous improvement and impactful contributions within dynamic environments.

## EXPERIENCE

### Senior Hardware Instrumentation Engineer

June 2021 – Present

Tech Innovations Inc.

Chicago, IL

Managed the full lifecycle of advanced instrumentation design, acting as a key player in developing inertial sensors for high-stakes applications. Collaborated with diverse engineering teams to cultivate integrative designs enhancing overall system performance.

- Spearheaded design initiatives for gyroscopes that consistently met critical performance metrics, ensuring readiness for production.
- Collaborated across disciplines to seamlessly integrate precision instruments into expansive systems without loss of functionality.
- Provided mentorship to junior engineers, imparting best practices amidst complex hardware design challenges.
- Crafted experimental models validating performance outcomes and optimizing instrument efficacy based on real-world needs.
- Delivered clear technical reports and updates to leadership, praised for clarity and detail in presenting project trajectories.
- Conducted innovative research tackling intricate engineering dilemmas which resulted in heightened reliability of produced devices.

### Hardware Instrument Engineer

March 2017 – May 2021

Precision Devices LLC

Peoria, IL

Played a pivotal role in designing precision instrumentation systems, driving tests that significantly optimized prototypes. Engaged collaboratively in manufacturing processes tailored to meet unique design specifications.

- Engineered electro-mechanical system designs achieving notable enhancements during prototype testing phases.
- Negotiated closely with manufacturing for crafting efficient fabrication methods to boost quality and delivery performance.
- Leveraged MATLAB and CAD software to streamline modeling and simulation activities, expediting time-to-market strategies.
- Cooperated with external partners to evaluate frontier technologies facilitating integration and miniaturization efforts.
- Documented insightful findings from R&D, fostering an environment of continual team advancement toward excellence.
- Led training workshops for new staff covering device operation protocols and safety regulations to assure proficient onboarding.

### Junior Hardware Engineer

January 2015 – February 2017

Engineering Solutions Co.

Normal, IL

Assisted in advancing precision instrumentation development via comprehensive testing evaluations. Partnered in prototype creation contributing to effective outcomes ahead of projected timelines.

- Supported thorough characterization and reliability assessments for various precision instruments, ensuring peak operational standards.
- Played a key role in prototyping sensor readout electronics resulting in timely and successful project objectives.
- Contributed actively in collaborative projects focused on enhancing system integration methodologies that uplifted performance attributes.
- Authored comprehensive reports detailing test results alongside modifications for thorough senior-level evaluation.
- Engaged constructively in multi-discipline meetings, sharing valuable insights on manufacturability and design viability.
- Developed onboarding materials for new hires, boosting team efficacy while minimizing transition times.

## LEADERSHIP & AWARDS

- Mentorship Program Award for Excellence in Leadership
- Innovative Design Award at Tech Innovations Inc.

## EDUCATION

### Bachelor's Degree in Mechanical Engineering

2014

University of Illinois GPA: 3.5

Champaign, IL

**Coursework:** Dynamics, Fluid Mechanics, Thermodynamics, Control Systems

CERTIFICATIONS

- Certified Manufacturing Engineer (CMfgE) 📅 2020
- Project Management Professional (PMP) 📅 2021

TECHNICAL SKILLS

- **Modeling Tools:** MATLAB, Simulink, Cadence
- **Simulation Software:** ANSYS, COMSOL, FEA
- **Design Platforms:** AutoCAD, SolidWorks, CATIA
- **Control Systems:** PID, State-Space, Bode Plots
- **Instrumentation Technologies:** Gyroscopes, Accelerometers, Precision Sensors
- **Manufacturing Processes:** CNC Machining, 3D Printing, Assembly Techniques
- **Project Management:** Agile, Waterfall, SCRUM
- **Testing Methods:** Reliability Testing, Validation Procedures, Quality Assurance
- **Documentation Tools:** Microsoft Office, LaTeX, Confluence
- **Standards Compliance:** ISO 9001, AS9100, IEEE 802.11

SKILLS

- |                                |                      |                           |                          |
|--------------------------------|----------------------|---------------------------|--------------------------|
| • Sensor Development           | • MATLAB             | • Technical Documentation | • Prototyping Techniques |
| • Electro-Mechanical Design    | • CAD Software       | • Team Collaboration      | • Problem Solving        |
| • MEMS Technologies            | • FEA                | • Systems Integration     | • Research & Development |
| • Performance Characterization | • Project Management | • Experimental Design     | • Safety Standards       |

PROFESSIONAL AFFILIATIONS

- Member of American Society of Mechanical Engineers (ASME)
- Active participant in local STEM outreach programmes.

LANGUAGES

- English (Native)
- Spanish (Intermediate)

ADDITIONAL INFORMATION

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

REFERENCES

AVAILABLE ON REQUEST