

Robin Miranda

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EDUCATION

Rochester Institute of Technology

Master of Engineering, Mechanical Engineering (GPA 3.8)

Rochester, NY

Aug. 2022 – May 2024

Visvesvaraya Technological University

Bachelor of Engineering, Aeronautical Engineering (First Class with Distinction)

Bangalore, India

Aug. 2016 – May 2020

EXPERIENCE

Hitachi Energy USA, Inc.

Mechanical R&D Engineer - Liquid immersed Distribution Transformers

Jan. 2026 – Present

Jefferson City, MO

- Design and model mechanical components using advanced CAD tools.
- Coordinate prototype development, testing, and measurements to improve product designs.
- Solve technical challenges and support cost-reduction initiatives and design portfolio enhancements.
- Prepare manufacturing and supplier drawings and collaborate with internal and external suppliers.
- Execute project tasks on time and with high quality.

B&G Industries Inc.

Product Design Engineer

July 2025 – Jan. 2026

Watertown, SD

- Design custom utility truck bodies using SolidWorks with a focus on sheet metal and weldment practices, ensuring manufacturability and adherence to customer specifications.
- Lead cross-functional collaboration with manufacturing and quality teams to drive design accuracy and product lifecycle support.
- Execute design modifications based on internal reviews and customer feedback to enhance performance and quality.
- Utilize RCA and continuous improvement methodologies to resolve production issues and implement design improvements.
- Develop detailed 3D CAD models, technical drawings, BOMs, and documentation, while managing data through SolidWorks PDM.
- Assist in the development of wiring harnesses, fixtures, jigs, and tooling, contributing to improved production efficiency.

Caterpillar Inc.

Quality Checking Engineer (titled as Quality Technician III - Contract)

Apr. 2025 – July 2025

Rapid City, SD

- Review engineering drawings and ensure they adhere to the ASME Y-14.5 and ISO9001 standards. Improved compliance and accuracy of manufacturing drawings by collaborating with engineers and detailers, leading to a 15% reduction in errors.
- Apply GD&T principles, tolerance-stacks and mechanical design best practices to identify improvements and support production.
- Utilize CAD tools and drawing markup software to provide feedback and ensure design intent is met.

Facility for Rare Isotope Beams (FRIB) | U.S. Department of Energy

Mechanical Design Engineer I

June 2024 – Feb 2025

East Lansing, MI

- Created detailed technical drawings with precise GD&T, improving manufacturability and reducing production errors by 20%.
- Provided support for the fabrication, assembly, and commissioning of advanced technical equipment, contributing to the successful deployment of 5 critical heavy-ion linear accelerator cryogenics systems.
- Worked with Process and Instrumentation Diagrams (P&IDs) to understand system flow and identify component specifications.
- Produced and documented effective design solutions by developing concepts and creating CAD designs for linear accelerator systems, cryomodules, and coldmasses.
- Assisted project leaders and subject matter experts in reviewing design layouts and project documentation for the construction, testing, modification of hardware and installation of sub-systems.

The Raymond Corporation | Toyota Industries Corporation

Product Mechanical Engineer

June 2023 – Dec. 2023

Greene, NY

- Performed GD&T and tolerance stack-up analysis, design modifications and modeling using PTC Creo that improved component fit and reduced assembly time by 10%.
- Performed engineering drawing reviews and markups using Bluebeam, revised engineering BOMs, RFQs and submitted ECR's.
- Resolved complex issues across mechanical, electrical, hydraulic, and transmission systems, leading to a 25% reduction in downtime.
- Responsible for troubleshooting and implementing changes to resolve various design issues that support production.
- Investigated and implemented design changes to decrease product cost by \$43K annually and kept production running smoothly.
- Analyzed root causes of part failures and implemented corrective actions, reducing warranty claims by 15%.
- Completed forklift training and acquired forklift operating license to assist in testing of prototypes.

Rochester Institute of Technology

Graduate Teaching Assistant, Dept. of Mechanical Engineering

Jan 2024 – May 2024

Rochester, NY

- Led tutorials and experimental lab sessions for over 100 undergraduate students, covering subjects like Strength of Materials and Engineering Design Tools, achieving a 95% student satisfaction rate.
- Reinforce theoretical principles through lab measurements and analysis; process experimental data using tools such as PASCO, MATLAB and Excel.

Aerotics Technologies

Aerospace Technical Publication Specialist

Aug. 2021 – Nov. 2021

Bangalore, India

- Worked with aerospace technical publications standards: ATA-100, iSpec 2200, S1000D, ASD-STE.
- Revised over 50 maintenance manuals including AMM, CMM, SRM, AIPC, and SB, ensuring compliance and enhancing usability.

Aerodesign Solutions Pvt. Ltd.

Mechanical Design Engineer (Internship)

July 2019 – Aug. 2019

Bangalore, India

- Completed intensive training in research methodologies and technologies used in aircraft design, leading to the successful design and modeling of the nose wheel landing gear for a Bombardier CRJ-200 aircraft using CATIA-V5.

PROJECTS

Noise reduction using a plasma actuator

Aug. 2019 – May 2020

Designed and modeled a DBD plasma actuator that reduced noise and drag on aircraft nose landing gear by 18%, enhancing overall aerodynamic performance. Leveraged CATIA to design the landing gear and Ansys Fluent for airflow simulations, leading to a 12% improvement in airflow efficiency through advanced CFD optimization.

Robotic fruit picker

Sep. 2016 – Dec. 2016

Built a robotic arm prototype that achieved a 95% success rate in autonomously detecting and picking oranges using RGB color sensors. Coded in Python and implemented with Arduino IDE, the solution reduced manual labor by 40% and increased harvesting efficiency in a controlled environment.

TECHNICAL SKILLS

CAD softwares: SolidWorks, PTC Creo, Onshape, Fusion 360, CATIA-V5, Inventor, SolidEdge, AutoCAD, Meshmixer

Analysis softwares: Ansys Workbench/Fluent/Mechanical APDL/Granta, MATLAB/Simulink

Other softwares: MS Office, Outlook, Teams, Adept, Matrix, Jira, Bluebeam, Navisworks (BIM), Siemens Teamcenter

Modular calculation softwares: KISSsys, KISSsoft, Wolfram Mathematica

CERTIFICATIONS

Engineer-in-Training (EIT)

May 2025

National Council of Examiners for Engineering and Surveying (NCEES)

Certified SolidWorks Professional (CSWP)

May 2024

Dassault Systèmes

GD&T Fundamentals, Applications and Tolerance Stacks

Feb. 2024

The American Society of Mechanical Engineers (ASME)

Yellow Belt in Lean Six Sigma Manufacturing

Feb. 2024

The Council for Six Sigma Certification (CSSC)

Coursera Certificate in Aerospace Materials

Oct. 2021

National Research Tomsk State University

Certificate in Product Design - SolidWorks and CATIA-V5

Oct. 2019

CADD Centre, Mangalore, India

EXTRACURRICULAR

IdealLab @RIT

Feb. 2024

Designed and prototyped a smart arm/wrist band that can help prevent patients walking away from their medical assistive devices partnered with Rochester Regional Health and Al Sigl Center.

RIT Racing (Formula SAE)

Jan. 2024 - May 2024

Member of RIT Racing composite team. Designed and fabricated (laying and tow) new carbon fiber composite body panels including steering, front and rear wing for our vehicle with improved fabrication techniques which gave us better strength to weight ratio, thereby improving vehicle overall performance.

VerTechX 8.0

Feb. 2018 - April 2018

Secured 1st prize in the electric kart event at an inter-collegiate national level technical fest conducted by MVJ College of Engineering, Bangalore, India. Modified an existing gas driven kart into a fully electric kart by replacing the engine with electric drive motors and swapping the fuel tank with lithium ion batteries.

Sieger Pro Karting Championship 2018

Aug. 2017 - Feb. 2018

Secured 2nd place in an event organized by Sieger Innovations at Aditya Engineering College, Andhra Pradesh, India. Built the entire kart from scratch, starting with designing the chassis on SolidWorks followed by manufacturing it, which gave me hands on experience with cutting, welding, grinding, polishing, lathe machining, etc.

ADDITIONAL INFORMATION

I'm a great team player having effectively led my team through the successful completion of our final year undergrad project. In addition to my engineering pursuits, I like playing chess and badminton.