

Dhruv Dilipkumar Prajapati

Rochester, NY | +1(520) 390 4462 | ddp8909@rit.edu | www.linkedin.com/in/dhruv-prajapati1220/ | <https://dhruv-prajapati1220.vercel.app>

Mechanical Engineering Junior student with expertise in design, CAD modelling, and finite element analysis (FEA), passionate about semiconductor, automotive and aerospace industries. Skilled in data analysis, test & validation, Modelling and optimisation, Six Sigma approaches and Lean principles, seeking a spring and/or summer 2026 co-op/internship blocks.

EDUCATION

Bachelor of Science in Mechanical Engineering, Rochester Institute of Technology, NY – 14623, USA, GPA: 3.30

Dec 2027

Coursework: Semiconductor Innovation & Manufacturing, EUV Photolithography Technology, Intro to Acoustics, Dynamics, Fluid Mechanics, Thermodynamics, Materials Science, Statics, Strength of Materials, Engineering Measurements lab, Computer-Aided Design/Manufacturing, Multivariable Calculus, Ordinary Differential Equations - Spring 2026: Systems Dynamics, Boundary-value Problems, Circuits, Heat Transfer

Bachelor of Science in Aerospace Engineering, University of Arizona, AZ – 85721, USA, GPA: 4.00 (Transferred out)

Aug 2023– May 2024

CORE COMPETENCES

- **CAD Design & Analysis:** SolidWorks, Flow Simulation, ACAD 2D/3D, Ansys Mechanical, CATIA v5, Prusa i3, GD&T
- **Programming:** Python, MATLAB, MySQL (intermediate), LabVIEW, BMS Controls
- **Tools & Fabrication:** Lathe, CNC, Surface Finish, Shop Machine tools, Prusa i3 machine, Instron materials testing machine
- **Office:** Microsoft 365, Excel, PowerPoint, Outlook, Tableau, Power BI (basic), SAP
- **Project Experience:** Computer-aided design and modelling, 3D Printing, Finite Element Analysis (FEA), Computational Fluid Dynamics (CFD), Design of Experiments (DOE), Bill of Materials (BOM), Prototype design, Root Cause Analysis (RCA), Tensile, Compression, Fatigue and Structural Testing

PROFESSIONAL EXPERIENCE

MKS Instruments Inc.

Aug 2025 – Dec 2025

Mechanical Engineering Intern

Rochester, NY

- Updated CAD drawings for electrical, HVAC, gas, and water piping systems, documenting control and process procedures and verifying electrical schematics and reduced inefficiencies in layouts by 15%.
- Performed SolidWorks Flow Simulation on a pulsed DC heat sink design for semiconductor fabrication and validated results through lab testing (heat sink, chiller, flow meter, pressure gauges), compared experimental and simulated pressure drop data to support new product development at MKS.
- Supported the dept. projects involving HVAC controls, boilers and chillers, compressors, heat pumps, computer networks, bulk liquid nitrogen systems, and environmental ALT HASS/ESS chambers for reliability testing.
- Contributed to the team's daily tasks and continuously improved the systems, processes and procedures using Lean and Six Sigma approaches, including waste reduction, cost-cutting, operational efficiency and defects.
- Engaged in Continuous Improvement (CI) projects involving LOTO, sprinkler water system and engineering solutions.

Rochester Institute of Technology

Aug 2024 – July 2025

Information Technology (IT) Support Assistant

Rochester, NY

Apple

Aug 2023 – May 2024

Apple Certified Technician: Technology Service Assistant

Tucson, AZ

ACADEMIC PROJECTS

Pulsed DC – Heat Sink Differential Pressure Project

Aug 2025 –Dec 2025

- Performing SolidWorks Flow Simulation on pulsed DC heat sink design for semiconductor fabrication and validated results through lab testing (heat sink, chiller, flow meter, pressure gauges), comparing experimental and simulated pressure drop data to support new product development at MKS.

MATLAB Lunar Lander Project

Oct 2024 – Dec 2024

- Developed MATLAB simulation of lunar lander descent, modelling gravity, thrust, and fuel consumption and optimised code to achieve an accurate landing trajectory within a 5% error margin.

Reverse Engineering Project

April 2024 – May 2024

- Directed team in disassembling and redesigning silver armoured connectors using SolidWorks, and fabricated a prototype via 3D printing, enhancing original design efficiency by 10%.

Team/Independent projects

- Solar Oven Tracker, Accelerometer and Strain Gauge, Epitrochoid, Thermocouple, Pressure Sensor, Mechanical Encoder LED