

Samir Kadri

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Professional Summary

- Mechanical engineering graduate student with experience in CAD design, GD&T drawings, & DFM methodologies
- Skilled in converting engineering requirements into manufacturable designs, producing clear drawings, and resolving assembly and tolerance issues
- Proficient in CATIA, SolidWorks, & ANSYS, with a proven ability to support engineering–manufacturing integration
- Strong multi-disciplinary background across structural & aerodynamic design, manufacturing, & validation testing

Education

University of Toronto, MEng in Mechanical and Industrial Engineering Sept 2024 – May 2026
GPA: 4.0 | Coursework: *Finite Element Method, Forensic Engineering, Computational Fluid Mechanics & Heat Transfer*

University of Mumbai, BTech in Mechanical Engineering Feb 2021 – June 2024
GPA: 3.7 | Coursework: *CAD-CAM, Mechanical Measurements, Structural Mechanics, Manufacturing Science & Tooling*

Experience

- Flow Robotics**, Mechanical Engineering Intern – Toronto, ON Sept 2024 – Sept 2025
 - Designed mechanical subsystems of a gastrointestinal device using Fusion360, ensuring assembly & tolerance control
 - Built & iterated 3D-printed prototypes, identifying alignment & clearance issues, & implementing corrective updates
- TATA Motors**, Project Intern – Pune, India June 2023 – Sept 2023
 - Evaluated suspension architectures with a focus on handling, layout and component interaction considerations
 - Supported multidisciplinary design reviews by delivering layout, compliance, and packaging analysis
- Polyvault Shelters**, Product Design Intern – Mumbai, India June 2021 – Sept 2021
 - Modeled consumer products in SolidWorks & ANSYS, increasing design safety margins & manufacturing scalability
 - Created detailed fabrication drawings and GD&T documentation, improving cross-disciplinary workflow efficiency

Projects

- University of Toronto Formula Racing FSAE**, Aerodynamics & Suspension Senior 2025 – Present
 - Designed rear suspension uprights using topology optimization for in-hub motors, for 5-axis CNC manufacturability
 - Designed front wing & nosecone with topology-optimized mounts, contributing to a 23.3% performance increase
 - Manufacturing all composite aerodynamic devices using 3D-printed and CNC Foam Molds
 - Produced engineering drawings with GD&T for designed components, ensuring accurate CNC/composite fabrication
 - Validating suspension package on a 4-post test rig at Multimatic & aero package in a wind tunnel at Ford Motors
- Trubulence Research Laboratory (University of Toronto)**, MEng Project 2025 – Present
 - Developing a CFD-based Spark-Jet actuator model to simulate jet velocity, temperature rise, & flow reattachment
 - Executing COMSOL Multiphysics models on HPC clusters for enhanced computation efficiency and model accuracy
- CFD Solver for 2D Lid-Driven Cavity** 2025
 - Developed a Python CFD solver implementing SIMPLE to solve 2D incompressible Navier–Stokes equations
- Gear & Power Transmission Laboratory (Ohio State University)**, Capstone Project 2024
 - Developed a 3D stochastic microcontact model on MATLAB for the friction coefficient in line and elliptical contacts
- VJTI AIAA Design/Build/Fly**, Structures Senior 2023 – 2024
 - Designed & manufactured topology-optimized fuselage & wing structures using SolidWorks & ANSYS
 - Designed the mechanism for a foldable set of wings, for taxi in smaller spaces to adhere to competition rules
- VJTI Racing SAE eBAJA**, Suspension & Vehicle Dynamics Senior 2021 – 2024
 - Developed the Hardpoints, & designed the front uprights, using Leosoft Lotus Shark, ANSYS & Solidworks
 - Manufactured the suspension package, by machining various components, & coordinating machining of the uprights

Skills

CAD: CATIA, SolidWorks, Fusion 360, AutoCAD

Programming: Python, MATLAB

Other: Ansys Mechanical, MSC Adams, Ansys Fluent, STAR-CCM+, COMSOL, HPC Workflows, Leosoft Lotus Shark