

# SHARDUL SHRIKHANDE

shardulshrikhande.github.io

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## EDUCATION

### University of Wisconsin-Madison

**Ph.D. Mechanical Engineering**, December 2027 (Expected)

**M.S. Mechanical Engineering**, December 2024

Coursework: Heat Transfer, Advance FEA, Control System, Mechatronics, Scientific Computing, Energy Sustainability

### Vellore Institute of Technology

**B.Tech. Mechanical Engineering**, June 2021

GPA: 8.46/10

Coursework: Thermodynamics, NDT, CAD/CAM, Fluid Mechanics, Robotics, Material Science, Statics and Dynamics

## RESEARCH EXPERIENCE

### Multiscale Metal Manufacturing Processes Lab, University of Wisconsin-Madison

Graduate Research Assistant, May 2023 - Present

- Investigating heat distribution in Friction surfacing, understanding the process through physics, observing the process through experiments and simulation

### Institute of Production Engineering and Photonic Technologies (IFT), Technische Universität Wien

Visiting fellow, May 2025 – August 2025

- Collaborated with the IFT and KU Leuven to investigate Life Cycle Assessment (LCA) of friction surfacing
- Investigated grain size refinement of a new-generation FeAlOY ODS alloy deposits.

### Advance Independent Study, University of Wisconsin-Madison

Researcher, December 2022 – May 2023

- Numerical solutions based on effective medium theory for solidification of PCMs in fins for HVAC
- Investigate computational models for thermal energy systems, heat exchangers with phase change material

## EXPERIENCE

### Cummins Inc., Columbus, Indiana

Thermal and Fluid Systems Engineer Co-Op, June 2023 – December 2023

- Documenting an unambiguous test plan with clear instructions with correct calibration, overrides, and screen file. Investigate fail part impact on the overall engine and aftertreatment performance.

### University of Wisconsin-Madison, Madison, WI

Teaching Assistant, August 2022 – Present

- Energy Systems Laboratory: Instructed students on experimental methods in thermodynamics and heat transfer; guided data acquisition using [LabVIEW/EES].
- Interdisciplinary Experiential Design: Managed 8 senior design teams (32 students) regarding client timelines, product realization, and technical reporting

### Wipro Ltd., Kolkata, India

Associate Consultant, July 2021 – August 2022

- Developed web pages, automate flow and software applications for Hewlett Packard customer using CRM

### Myntra Designs Pvt. Ltd., Bengaluru, India

Data Analyst Intern, January 2021 - June 2021

- Built user behavior model using Random Forest ML/AI algorithm to improve acquisition, with organizing data and data visualization for statistical analysis, registering higher revenue and total acquisition of 86.9%

## PUBLICATION

- Shardul Shrikhande**, Frank E. Pfefferkorn, Analytical Heat Transfer Model to Predict Friction Surfacing Process Parameters, Procedia CIRP, Volume 137, 2025, Pages 443-448, ISSN 2212-8271
- Shardul Shrikhande**, et al. "Computational fluid dynamics simulation on thermal performance of Al/Al<sub>2</sub>O<sub>3</sub>/SWCNT nanocoolants for turning operations." Nanomaterials 12.19 (2022): 3508.
- Shardul Shrikhande**, et al. "Numerical investigation on thermal performance of duplex nanocoolant jets in drilling of Ti-6Al-4V alloy." Applied Sciences 12.22 (2022): 11715.
- Shardul Shrikhande**, et al. "Centralized Smart Air Purifier System for Industrial Applications." International Virtual Conference on Industry 4.0: Select Proceedings of IVCI4. 0 2020. Singapore: Springer Singapore, 2021.

## SHAURYA RACING, FORMULA SAE

- Orchestrated project execution and manufacturing timelines across 5 cross-functional departments, ensuring rigorous documentation of design validations, cost estimates, and Gantt charts.
- Engineered powertrain thermal systems (radiator, intercooler) using ANSYS Fluent; performed root cause analysis on gasket failures and manufactured a carbon fiber fan shroud to optimize engine cooling efficiency.

## TECHNICAL SKILLS

MATLAB| SolidWorks| ANSYS(Static, Thermal, APLD, Fluent, CFX)| LTspice| Python| SQL| MS Office| C#| C++| VBA| EES| 5S| Word| CAN| LabView| 3 D printing| Power Point| Excel| Lean Manufacturing| Six Sigma| BOM| FMEA| GNDNT