Harsh Meel

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EDUCATION

Cornell University, Ithaca, United States — Aug 2024 – Exp. July 2026

Master of Science (Research) in Mechanical Eng.; Conc: Dynamics and Control, Atmospheric Science

Indian Institute of Technology Bombay (IIT Bombay), Mumbai, India — July 2019 – May 2023

Bachelor of Technology in Civil Engineering with Minor in Mechanical Engineering

SKILLS AND RELEVANT COURSES UNDERTAKEN

**Ongoing*

Software	Python, MATLAB,Earth Sys. Modeling*, SolidWorks, AutoCAD, Pyomo, STAAD, VISSIM, Office, Ansys
Selected Courses	Control Systems, Env. Statistics and Learning, Climate Dynamics, Fund. of Urban Science and Eng., Renew. Energy Tech., Water Reso. Supply & Waste Eng., Transportation Eng., Econ., Manuf. Proces.
Prototyping	Electro-Mechanical Assembly, 3D Printing, Metal Cutting and Machining, Adhesives, Composites

KEY EXPERIENCES

Regionally Informed Robust Global Climate Engineering, Climate Eng. Lab | MS Thesis [Oct'24- Current]

Principal Advisor: Prof. Douglas MacMartin, MAE, Cornell University; Minor Advisor: Prof. Daniele Visioni, CALS

- Identified a novel strategy based on decision trees, emergence of linear trend from climate variability and feedback control to address concerns on reliability of climate models' precipitation predictions
- Utilizing Indian Monsoon SAI experimental data from Earth System Models to test the strategy

Optimization Tools for Electric Vehicle (EV) Charging Infrastructure| Research Assistant [Nov'23 –April'24]

Guided By: Prof. Ashutosh Mahajan, Industrial Engineering and Operations Research, IIT Bombay, India

- Mapped out industry segments and use cases of optimization tools in improving vehicle charging infrastructure service in India; Conducted stakeholder interaction, and ran optimization test cases

Accumulator (Battery Assembly) Design Engineer, IIT Bombay Racing | Formula Student [Nov'19-Jun'22]

3-tier cross-functional team of 70+ undergrad students; Winner FSEV Concept Challenge'21 Overall and Eng. Design

- Designed new parallel configuration of cells, theor. cutting battery heat by 50% and volume by 33%
- Improved battery size estimation using driver mix data and transient simulation of car - increasing reliability and performance; initiated technical alliance with cell recyclers to handle discarded cells
- Trained and managed 3 junior engineers; led engineering recruitment tests for 140+ new aspirants

Wind-Test Setup, ideaForge Technology Ltd., Mumbai, India | R&D intern [May'22 – June'22]

Industry leader in UAV technology in India; Developing drone solutions for Defense, Surveying, and Enterprises

- Designed plan for a modular wind-test setup producing realistic wind profiles to test multiple drones
- Analyzed axial fan flow to reduce total power load; work received a recommendation from the CTO

RELEVANT PROJECTS

Feedback control of simplified Earth's surface temperature | Course Project [Report] [Aug'25-Dec'25]

- Designed a PID controller stabilizing against ramped disturbance(emissions) in presence of time delay

Reliability Analysis of Renewable Grid using Data-Driven Models| Course Project [Rep.] [Nov'24 – Dec'24]

- To investigate potential correlation between price spike events and renewable grid expansion in NY state CLCPA, analyzed load and fuel mix data using regression, decision trees, and ensemble methods

Vehicle Overtake Assist System | Institute Technical Summer Project [Repository] [May'20 – Aug'20]

Led a first-year undergraduate student summer project, Awarded Special Mention (top 7) out of 64+ projects

- Designed a driver assistance system, assisting the vehicle in overtake maneuvers on undivided two-laned roads in poor sight conditions; conducted on-road calibration and virtual simulation testing