

# Rohan Dalvi

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22600 Cyprus Drive  
Northville, MI 48167

## EDUCATION

### **University of Michigan**

*BSE in Mechanical Engineering, Minor in Computer Science*  
*3.289 GPA (Dean's List, Winter 2019)*

Ann Arbor, MI

Expected Graduation: April 2021

Relevant Coursework: Design and Manufacturing II, Data-Oriented Programming, Elec. Circuits, Systems, and App.

## EXPERIENCE

### **BorgWarner Inc. | Engineering Intern**

May 2019-August 2019

- Utilized Artemis Suite and Excel to conduct long-term investigation into abnormal torque fluctuation with level and FFT analysis, and presented findings to engineers to improve preventative maintenance schedule
- Wrote a MATLAB script to automate spin loss data entry and analysis saving 30 minutes per batch of spin loss tests, as well as a script to process and graph dyno temperature and torque data for correlation analysis
- Executed the NVH testing of 6 transfer cases on a dyno in a semi-anechoic chamber with the NVH team
- Conducted transfer case rebuilds, post-testing teardowns, and reports on the condition of parts for analysis
- Expanded NVH dyno torque cell calibration records from 1 to 10 years by researching vendor repair records

### **Personal Coding Projects | github.com/rohdalvi**

July 2017-Present

- Created a personal website to display my skills and experiences while also improving my HTML and CSS skills
- Created a predictor for March Madness games with Python that utilizes .csv input and basic machine learning
- Currently working through Udacity's Intro to Machine Learning course to improve Python skills

### **The Village Workshop | Intern**

June 2016-August 2016

- Created a sign for workshop use to advertise lumber for sale using Autodesk Inventor and a CNC machine
- Successfully assembled a cart for moving plywood and tools around the workshop by using a CNC machine to cut out components and basic power tools to assemble it

## ACTIVITIES

### **Michigan Electric Racing (Formula Electric SAE) / Dashboard Engineer**

September 2019-Present

- Responsible for integration of controls systems in a layout that is ergonomically friendly and sturdy
- Designing shockproof and waterproof 3D-printed enclosure for dashboard display and its PCB
- Researching different carbon fiber layouts to reduce weight of panel by 10% while maintaining durability

### **Michigan Electric Racing (Formula Electric SAE) / Steering System Lead**

September 2017-September 2019

- Redesigned steering system with Siemens NX to reduce weight by 10% and increase reliability while being able to handle ANSYS-simulated 80Nm torque load, resulting in the team taking 2<sup>nd</sup> place at Formula North
- Researched options for steering design and geometry to match potential budgets of \$750 and \$150
- Analyzed flaws of previous steering design and prepared documentation that set new design goals
- Used MATLAB to analyze tire data to perform Ackerman angle calculations for suspension design
- Utilized Solidworks to CAD 2018 steering system and mount within chassis, as well as to CAD a sensor mount

### **ME 250: Design and Manufacturing I | Squad Leader**

January 2019-April 2019

- Led a team of 5 students in the design and manufacturing of a robot for a competitive game by scheduling meetings, machine shop time slots, and design reviews while keeping track of deadlines
- Designed robot to given constraints with Solidworks, and was responsible for 60% of final CAD design
- Manufactured and assembled robot in time and under budget by utilizing a mill, lathe, laser cutter, and waterjet

### **EECS 280: Programming and Intro. Data Structures (Piazza Classifier) | Student**

January 2018-April 2018

- Created a machine learning classifier in C++ that sorted Piazza student forum posts by topic
- Wrote functions to pre-process data to be fed to classifier and test cases to check exception handling logic

## TECHNICAL SKILLS

**Applications** | Solidworks, Siemens NX, Inventor, ANSYS, HEAD Acoustics Artemis Suite, Git, Ultimaker Cura  
**Languages** | MATLAB, C++, Python, HTML, CSS