

# Hi! My name is Lilly George.



I am a student in **Purdue University's John Martinson Honors College** studying **Mechanical Engineering**. Experiences working with **Honda** and **Purdue Electric Racing**, as well as performing **Undergraduate Research** have sparked my interest in **Motorsports, Product Design, and Product Development**.

## Honda

Test Engineering Intern - Powersports Product Development (Current)

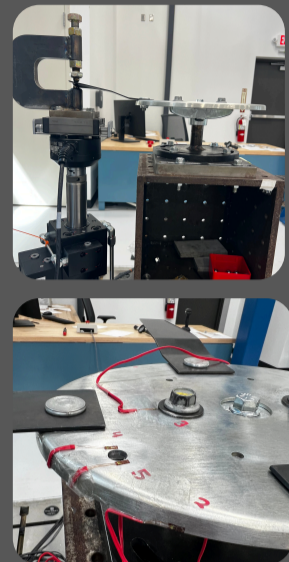
### In-Place Drive Test

Used strain gauges and accelerometers to gather data from a lawnmower being put through a durability test. Sensors placed in areas only sensitive to vertical loading. Correlating logged data to vertical movement of hydraulic actuators under lawnmower wheels. Damage factor calculated from test setup will be used to decrease test time.



### Serviceability Improvement

Initiated countermeasure for lawnmower serviceability issue by requesting movement and size change of blade plate drain holes to allow for effective torquing of blade plate bolts. Updated CAD, presented change to design team, and validated change with FEA and strain gauges in fatigue tests.

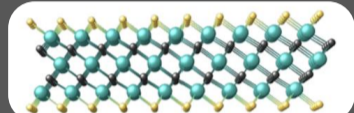


## Anasori Lab

Undergraduate Researcher; Purdue Layered Materials and Structures Lab

### Rare Earth Metal Doped MXenes

Investigating feasibility and characteristics of Yttrium-doped  $Ti(3)C(2)$  MXenes for semiconductive applications. Optimizing firing, etching, and intercalation steps while measuring conductivity and magnetic properties.



Project ongoing: My PI has kindly let me continue this project this summer through the help of in-person lab members. I am managing progress from afar and planning next steps as tasks are completed.



### Training

Glovebox, fumehood, centrifuge, HF and HCl acid training, general lab safety



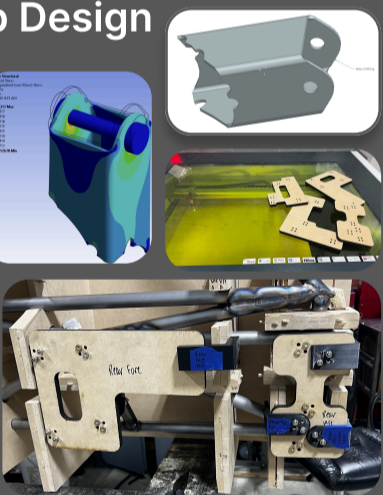
Click Here!

## Purdue Electric Racing

FSAE Electric - Vehicle Dynamics Team - Suspension/Steering/Brakes

### Control Arm Tab Design

CAD, cut normalization, FEA, manufacturing, and assembly of 16 tabs that connect 2026 car's control arms to the chassis. Required detailed CAD while coping tabs to frame, FEA, using a rotary tube laser, and MDF boards/3D prints to create installation jigs.



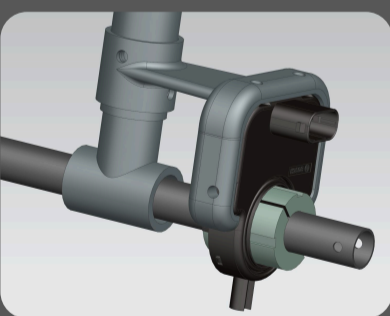
### UTM Suspension Testing

Worked with professor to safely design, plan, and execute testing of mock suspension members in uniaxial tension. Successfully broke and compared seven different specimens. Data used for future design of carbon fiber twill tube suspension members.



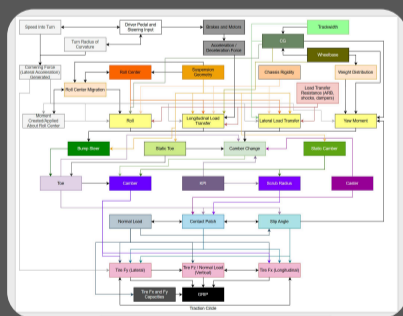
### Sensor Mount

First part designed for 2025 car. Design utilized steering column supports and set screw holes to support steering angle sensor while on car. 3D printed.



### Vehicle Dynamics Map

Supplemented a vehicle kinematics presentation. Aided in team member visualization of links between aspects of vehicle dynamics.

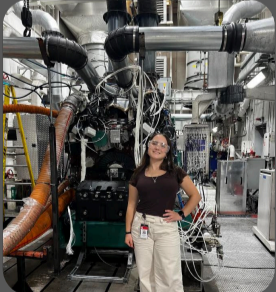


## Cummins

Summer '25 Mechanical Engineering Intern Power Systems Air Handling/Integration Team

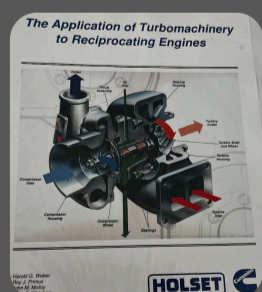
### Engine Program:

Worked with team members in the US, UK, and India to determine necessary validation tasks to push engine program to production phase.



### Turbomachinery Training:

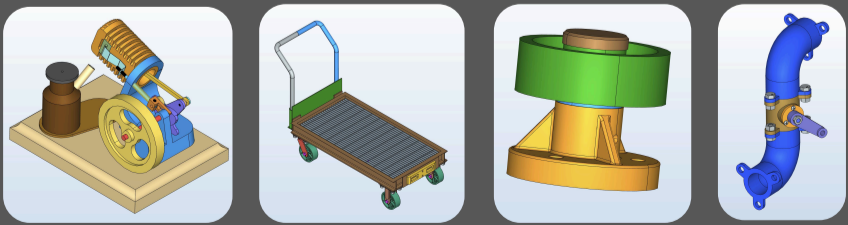
Lessons on inner workings, design, specifications, trade offs, and failure modes of turbochargers.



## College Coursework

### MFET 16300

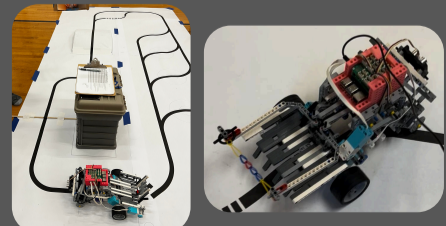
Class with use of Siemens NX, Teamcenter, and Anark Collaborate. Included drafting and assembling a "Little Blazer Engine", a spindle, and a butterfly valve.



### HONR ENGR 161/162 (First Year Engineering)

#### Mars Rover Robot Design

Task: Build rover to hold/carry/dispense cargo while navigating terrain using given sensors, motors, Legos, and Raspberry Pis. My focuses: sensor use/placement, strength for terrain navigation



#### Disaster Relief Robot Design

Task: Assemble a robot to carry relief supplies through disaster zones, using materials given in Mars Rover project above. Successes: maze navigation, path mapping, dispensing cargo, hazard identification/avoidance/mapping. My focuses: structural integrity, cargo dispensing, sensor use

