



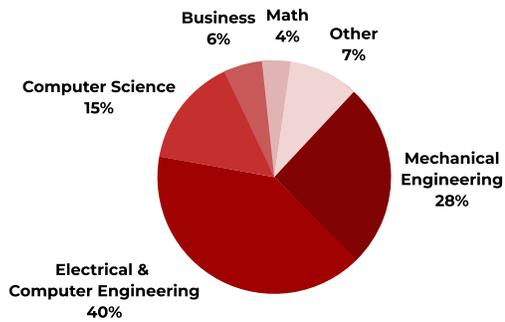
Sponsorship Information 2023-2024



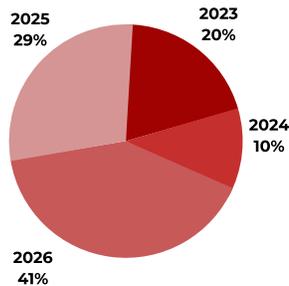
The Team

Carnegie Mellon Racing (CMR) is a student team of the Society of Automotive Engineers (SAE) and the **largest engineering student organization** at Carnegie Mellon University. Every year, **we design and fabricate a fully electric, open-wheeled race car** to compete against teams around the world in the Formula SAE Electric competitions. Composed of over 100 members representing every college at Carnegie Mellon University, our team is divided into 6 departments: Structures, Energetics, Driverless, Finance, Race Operations, and Marketing and Outreach.

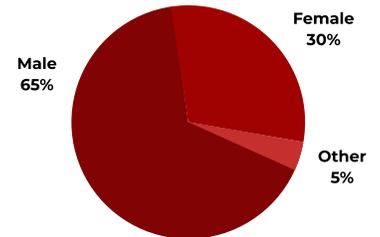
Major



Graduation Year



Gender



CMR is proud to present students with a unique opportunity to apply knowledge from their core curriculum and also learn and further develop hands-on skills outside the scope of the curriculum. We aim to be at the forefront of electric vehicle race technology. **Your help will ensure the success of Carnegie Mellon Racing and contribute to the development of our members' engineering and design skills and a space for shared interests in automotive engineering.**

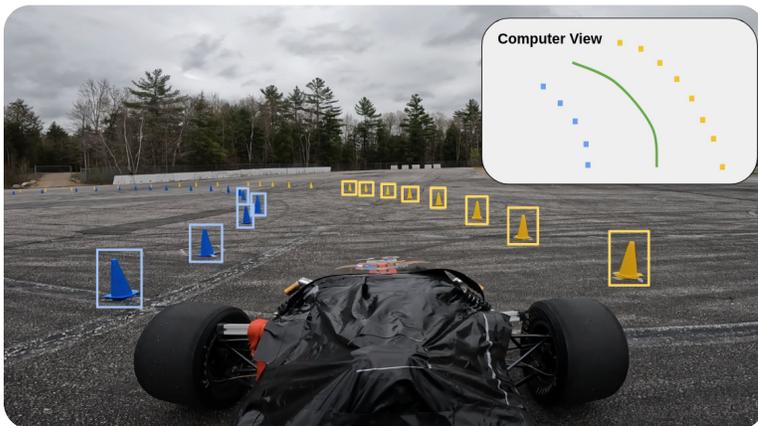


Driverless

The Driverless project is an innovative initiative by our team to transform our championship-winning race cars into **fully autonomous vehicles**. Through this interdisciplinary project, we hope to improve our team's expertise in mechanical and electrical systems, while also developing a solid foundation in computer science and robotics. In May 2023, **our team created history** at Formula Hybrid + Electric, where we unveiled our **first driverless race car, 19a**.



We completed the first driverless lap at an American FSAE event!



To achieve autonomy, our team has developed a **custom software stack** using:

- YOLOv8 Object Detection
- LiDAR Point Cloud Clustering
- GraphSLAM + Raceline Optimization
- Model-Predictive Control

In addition to these high-level algorithms, we dedicate our efforts to developing **robust firmware** that ensures the safety of our vehicles and consistently strive to improve the **efficiency of our implementations**.



Building on our success, we hope to **pioneer Driverless competitions in America**, initially at Formula SAE Michigan and Formula Hybrid+Electric, and inspire other universities to join us as we push the **boundaries of autonomous vehicle technology**. Through extensive collaboration with our industry partners, we look to push FSAE into an autonomous future.



What is Formula SAE?

Formula SAE is a **collegiate design competition** sponsored by the Society of Automotive Engineers (SAE), in which students **compete to design and manufacture a Formula style racecar**, either combustion or electric, for a fictional manufacturing company.

While operating within the safety requirements of the rules, teams seek to optimize acceleration, corner speeds, and mass to gain the most points as possible in a series of static and dynamic events.

Every year, over 5000 students across hundreds of universities participate in 3 competitions, 2 of which are available for electric vehicles like ours.

Static Events

Design Event	150
Cost Event	100
Presentation Event	75

Dynamic Events

Acceleration	100
Skidpad	75
Autocross	125
Efficiency	100
Endurance	275

Total Points 1000



Formula SAE promotes excellence in engineering while challenging students to involve themselves with all aspects of the automotive industry **beyond just engineering design**. They are expected to understand the car not only from the research and manufacturing aspect, but also from a **business, marketing, and financial perspective**. Formula SAE plays a critical role in the education and experience of our members, who cite being part of Carnegie Mellon Racing as a key step in their development as engineers and leaders.



Accomplishments

Each year, we compete at two competitions, **Formula Hybrid + Electric** in New Hampshire and **Formula SAE Electric** in Michigan. Despite switching from the production of a combustion vehicle to an electric vehicle in 2013, we have continued to perform incredibly well in all aspects of these competitions.

1st Place

2nd Place

3rd Place

2023

Acceleration Formula H+E
Autocross Formula H+E
Engineering Design Formula H+E
Overall Formula H+E

Overall FSAE Electric
Skidpad FSAE Electric
Endurance FSAE Electric

2022

Overall Formula H+E
Engineering Design Formula H+E
Presentation Formula H+E
Acceleration Formula H+E
Autocross Formula H+E

Endurance Formula H+E
Engineering Design FSAE Electric
Presentation FSAE Electric
Efficiency FSAE Electric

2021

Design Presentation

4th Place Knowledge Overall

2020*

Business Presentation

*regular competition cancelled

2019

Overall FSAE North
Engineering Design FSAE North
Acceleration FSAE North
Autocross FSAE North
Endurance FSAE North
Skidpad FSAE North
Cost FSAE North

Autocross FSAE Electric
Skidpad FSAE Electric
Cost FSAE Electric
Presentation FSAE North
Engineering Design FSAE Electric
Acceleration FSAE Electric
Efficiency FSAE North



Why Support Us?

Our mission

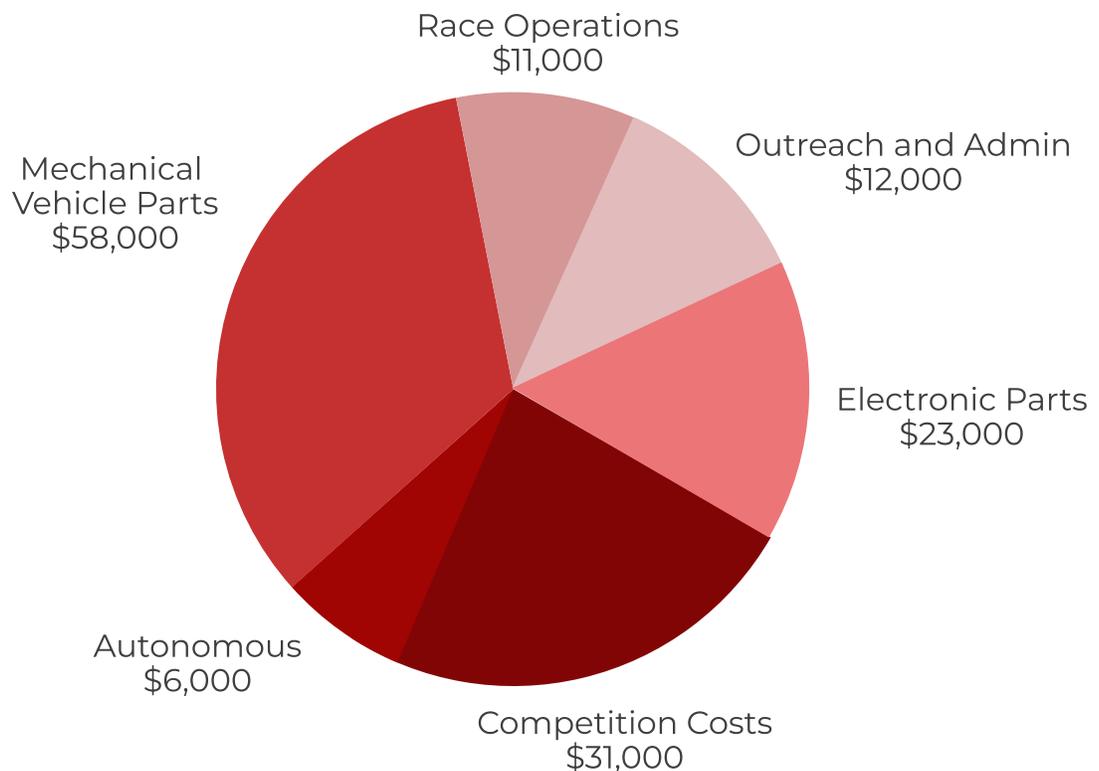
Provide undergraduates with opportunities to gain technical and managerial experience on a large engineering project. We strive to transform students into proficient engineers, leaders, and problem solvers.

We need your help

Our goal is to maintain our place as a top team and continue challenging ourselves to develop the best racecar we can. This can only be possible with your support! Corporate sponsors contribute to more than half of our team budget. We believe that in exchange for your support, we can give sponsors the ability to network with our most experienced members, attend and speak at our meetings and unveiling events, and engage in brand awareness and marketing. As a result, a majority of our best engineers go on to work for the companies that support us.

Budget Overview

Total:
\$141,000



Sponsor Benefits

Access to top engineering talent

Influence the future of engineering

Brand awareness and recognition



Sponsorship Opportunities

Carnegie Mellon Racing has been able to design a competitive racecar through the generosity of corporate sponsors. Sponsorship can be in the form of cash or in-kind donations of materials or services.

For more information about donations and sponsorships please email:

formula-sae@andrew.cmu.edu

Sponsorship Packages

	Friends of CMR	Bronze	Silver	Gold	Title
Donation Level	\$ 1 - \$ 999	\$ 1,000 - \$ 4,999	\$ 5,000 - \$ 9,999	\$ 10,000+	\$ 50,000+
Logos on Race Car	0	1	2	3	3
Size of Logo	-	S	M	L	XL
Logo on Website	X	X	X	X	X
Invitation to Unveiling Ceremony	X	X	X	X	X
Logo on Car, Shirt, and Banner	X	X	X	X	X
Resume Book		X	X	X	X
Virtual Recruiting Presentation		X	X	X	X
In-Person Recruiting Presentation			X	X	X
Small Group Recruiting *				X	X
Team Naming					X

* Small Group Recruiting involves hand selecting our most experienced and dedicated engineers and arranging for one-on-one and/or small group recruiting events with your company in our workspace.

Carnegie Mellon Racing is 501(c)(3) tax-exempt through Carnegie Mellon University, and thus all monetary and most in-kind donations are tax deductible.



Package Descriptions

Title Sponsor | \$50,000+

- Opportunity to name the team.
- Identified as CMR's principal sponsor on all of our promotional content.
- Provided with exclusive shop tours, recruiting workshops, brand placement, and unique opportunities to meet the team, all on request.
- All benefits of tiers below.

Gold Sponsor | \$10,000+

- Exclusive access to recruit our top engineers.
- Ability to host small group recruiting events with your company in our workspace.
- Interview our members about their engineering contributions in our workspace.
- All benefits of tiers below.

Silver Sponsor | \$5,000+

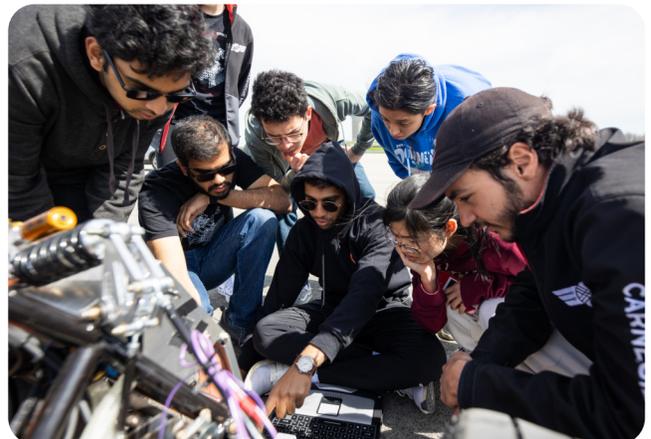
- Ability to attend CMR's General Body Meeting to publicize your company.
- Company will be recognized for their support on social media
- Given access to the depth of talent across our team in our resume book.
- All benefits of tiers below.

Bronze Sponsor | \$1,000+

- Given access to CMR's resume book.
- Your company logo placed on our car, website and team banner.
- Sent CMR themed merchandise as a token of our appreciation.
- All benefits of tiers below.

Friends of Carnegie Mellon Racing

- Given recognition on Carnegie Mellon Racing's website.
- Access to subscription to all Carnegie Mellon Racing publications
- Invited to our car's annual unveiling event.



Outreach & Community

Carnegie Mellon Racing attracts committed and passionate students who want to have a positive impact on the community. Every year, we attend and host events designed to inspire those around us to pursue engineering and STEM subjects. These include cub scout troops, international student groups, and engineering workshops for middle and high school students.

Throughout the year, we do our best to showcase our racecars at local events, including the Pittsburgh Auto Show and Pittsburgh Vintage Grand Prix. Last year, we also presented our vehicle to students at Freedom Middle School in Freedom, PA. More information about our community involvement can be found on our website.

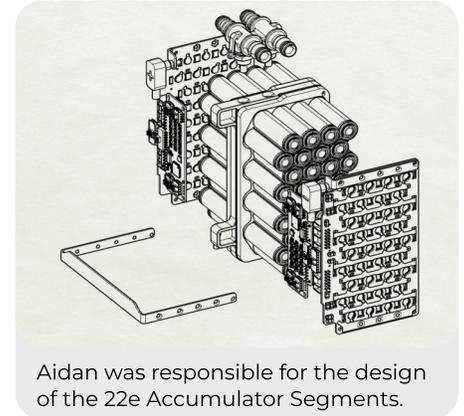


Hear From Our Members!

53% of our engineers go on to work for a CMR sponsor

Aidan Honnold, Tesla

“At CMR, I gained a deep exposure to topics such as electronics packaging, battery design, thermal, structural calculations, analysis, and manufacturing processes. **CMR formed the foundation of nearly all of the engineering work I’ve done** in internships at Uber, ATG, SpaceX, and Tesla.”



Aidan was responsible for the design of the 22e Accumulator Segments.



Gabriel has been the captain of Chassis & Suspension for multiple years.

Gabriel Botero, Gecko Robotics

“Rarely, if ever, does an engineer get to have almost complete creative freedom over a large part of a substantial engineering project. **CMR allows me to deeply understand and engage in every aspect of the engineering process** from a blank slate to a driving car. There is no part of the car that can be designed in a vacuum.”

Aaron McKenzie, Blue Origin

“Starting in the aerodynamics team with little prior knowledge, I learned to break down complex problems from first principles. **After my internship at Blue Origin, I went on to work there full time.** My experience didn’t only help me grow as an engineer, but also into a leader that is able to understand the strengths and weaknesses of my team.”



Aaron learned how to design and validate a full aerodynamics package as the captain of Aerodynamics and Composites.



2022-2023 Sponsors



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NUCOR®

TESLA



EControls®



gener8

Altium



CATERPILLAR®



Contact Info

Executive Board

Trent Muskens	President	tmuskens@andrew.cmu.edu
Daniel Tantsyura	VP of Finance	dvt@andrew.cmu.edu
Pravir Das	VP of Marketing and Outreach	pravird@andrew.cmu.edu
Varun Rajesh	VP of Energetics	vrajesh@andrew.cmu.edu
Jacob Kang	VP of Structures	joongook@andrew.cmu.edu
Tony Tao	VP of Race Operations	longtao@andrew.cmu.edu
Ankit Khandelwal	VP of Driverless	ankitkha@andrew.cmu.edu

Media



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