

# THE SPARTAN RACER

FEBRUARY 2023

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## Spartan Strong

Before moving on to discussing the teams progress this month, the team would like to take the time to recognize the victims of the tragic shooting that occurred on February 13th, 2023.

Arielle Anderson was a junior from Grosse Pointe, Michigan where she graduated from Grosse Pointe North High School.



Alexandria Verner

Alexandria Verner was a Junior at MSU, studying Biology. Verner, 20, was described as a “tremendous student, athlete, and leader that exemplified kindness in every day of her life” as explained by her former high school principal, Billy Shellenbarger.

Anderson aspired to work as a surgeon after her time at MSU, and she was described by her family as incredibly passionate about helping her friends and family, as well as assisting children.

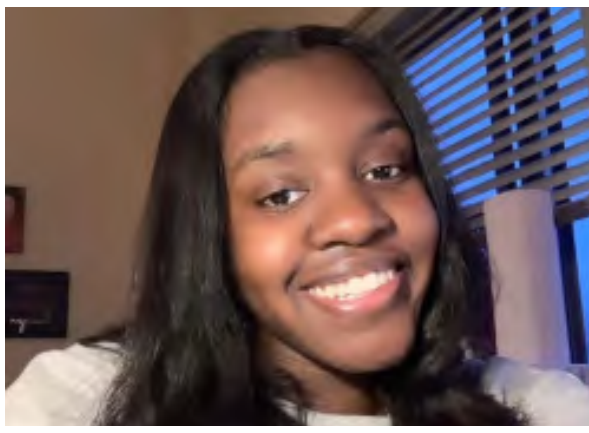
Anderson’s family explained that “As an Angel here on Earth, Arielle was sweet and loving with an infectious smile that was very contagious.”



Brian Fraser

Verner was from Clawson, Michigan where she graduated from Clawson High School in 2020.

Sophomore Brian Fraser was also From Grosse Pointe, Michigan, he was the chapter president of the Phi Delta Theta fraternity here at MSU.



Arielle Anderson

Brian’s fraternity has organized a memorial scholarship in his name. Phi Delta Theta Fraternity states that each student that receives the scholarship will “embody Brian’s charismatic, contagious smile and caring, loyal energy.”

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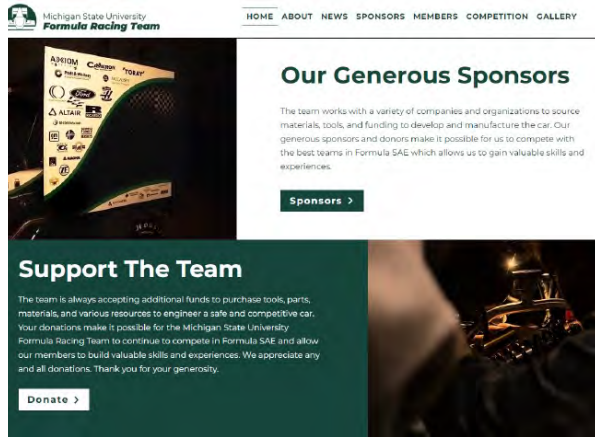
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## msuformularacing.com!

MSU Formula Racing is proud to announce its new and improved website! This site has all of the features from the previous one, plus some new and exciting information.

This website can still be found at msuformularacing.com, linked in the bottom left corner of this page. The site has pages for thanking our generous sponsors, featuring team members, competition results, a photo gallery, donation information, and much more!



To any alumni that view the site, be sure to check out the yearbook located in the "About" tab for a blast into the past! For more information about the team's recent events, visit the "News" tab to access all previous newsletters.

As mentioned above, feel free to click on the msuformularacing.com link in the bottom left corner of this page, or any of the others to visit the site and explore!

## The return of the Karting Fundraiser!

As some older followers of the team may remember, an annual karting fundraiser used to be hosted at Full Throttle Karting and Entertainment (formerly known as Kart 2 Kart) in Sterling Heights, Michigan.

The team is excited to announce, that after a long hiatus caused by the COVID-19 pandemic, the fundraiser will be returning! This event is a fantastic opportunity to connect with the team and get excited for competition approaching in May.

For some brief, tentative details, the event will be similar to how it was previously hosted. Approximately 30 racers compete in a mini grand prix for a fee of \$50 per racer. All proceeds will go towards the team and the event will be on a Sunday in mid April. The event will also feature a silent auction and prizes for the top 3 finishers!



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**Name:** Mikel Riffrani  
**Role:** Cooling Lead  
**Hometown:** Quito, Ecuador  
**Major:** Experience Architecture  
**Class Standing:** Junior



## Why did you choose to join Michigan State Formula Racing?

Joining a Formula Student racing team was my best friend and I promise to each other once we went to college. Once I enrolled in MSU knowing the history and the success of the team it was a no-brainer. Once I joined the team, the quality of the people and environment in which the team was made it a professional work environment while making college friends along the way. The opportunities that come after joining the team make the time spent on the team worth it. The experience of being on MSU's formula racing team is like no other.

## What is your favorite memory from the team so far?

It might sound quite the opposite. But I believe there is no better feeling than waking up at 6 am to go test the car. Since the conditions are so harsh in early winter/late spring, it makes it for the whole team to be committed to spending the day outside testing the car and waking up at an unreasonable hour on a Sunday. While the feeling might not be the best at the moment, looking back, the best memories that I have are those. All of the cumulative efforts that each team member puts in to get to that point is shown in one day and it is worth every second.

**Name:** Manan Patel  
**Role:** Electrical lead  
**Hometown:** Canton, MI  
**Major:** Electrical Engineering  
**Class Standing:** Junior



## What does your role of Electrical Lead entail?

As the Electrical Lead I am responsible for the design, testing, and development of all low-voltage electronic systems on the car; this includes the wiring harness, low-voltage power distribution, PCB design, data acquisition, and software. I also work closely with the High-Voltage Powertrain lead to assist with the design and development of our new EV powertrain system, as well as ensuring that this system integrates smoothly with the current low-voltage system.

## What is your favorite part about being a member of the team?

My favorite part of being on this team is being able to see the components and systems I have designed through the manufacturing/testing process and working on car. This team provides a unique opportunity to both design something from scratch and see its manufacturing through yourself; there are not many other places that let you experience the combination of design, manufacturing, and testing to this extent.

## What do you find most challenging about being a member of the team?

The most challenging part about being on this team to me is having to constantly adjust my designs to accommodate for larger-scale vehicle changes that naturally occur throughout the design process. It is not uncommon for me to sink time and resources into designs that may later be rendered useless; being able to quickly respond and adjust to ever-changing design criteria is a very important part of being on this team.

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**Name:** Christian Abbate  
**Hometown:** Hanover, MA  
**Degree:** BSME, 2020  
**Years on the team:** 2016-2020  
**Roles:** Chassis Member (2016-17), Ergonomics Project Lead (2017-18), General Member (2018-19), Suspension Team lead (2019-18)

### How did you contribute to the advancement of Michigan State Formula Racing?

I would like to think that I helped give a better insight into what the driver experiences along with additional driver feedback from testing days to help make better sense of all the data we would collect.



### How did your experience as a member of Michigan State Formula Racing help shape your future?

Being able to be a part of the entire process of designing, manufacturing, and testing a part or the entire car and then iterating on the design the following year is something that is tough for the classroom to teach. But through this, I had moments where I could see the principles and concepts that were taught in class be applied. Having this hands-on experience really helped get a better grasp of the scope of the projects that I work on rather than just focusing on the tasks of those projects.



### What is your current professional role?

I am a Vehicle Production Associate at iRacing. I assist in the development of the vehicles to correlate data from the real world along with testing any features that are on the platform.

### What is your favorite memory from the team?

One of my favorite memories has to be completing the endurance event in 2018 at Lincoln, NE. Having the privilege to drive the car for the team, crossing the finish line to then see everyone so happy and cheering it was awesome to be with everyone enjoying that moment. Moments like this, first drive, first start of the engine, and completing final assembly are all times where everyone gets to celebrate together and those are the best.



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## ROUSH



**Name:** Roush

**Location:** Livonia, MI

Jack Roush Performance Engineering was founded in 1976. Jack Roush transitioned from designing parts for his race team to selling them, where he quickly gained a name for himself, justifying the founding of his own company. Roush developed various performance and most importantly, engines for different racing organizations in the company's early years.

Currently, Roush provides engineering, prototyping, manufacturing, testing and development services for a wide variety of customers. However, Roush is best known for their performance division that primarily focuses on the modification of Ford vehicles. Roush Performance develops superchargers, exhaust systems, and body kits among other items for a variety of Ford vehicles.

Roush has graciously donated carbon fiber to the team this year. This carbon fiber will be used to develop carbon wheels as a part of a capstone project. Thank you Roush for your support of MSU Formula Racing!

**Name:** New Eagle

**Location:** Ann Arbor, MI

New Eagle was founded in 2000 by co-founders Mickey and Rich Swortzel. The company was founded with a focus on mechatronic control systems. The company designs custom systems for some customers and provides expert advice for others.

New Eagle's signature Raptor software streamlines algorithm writing for embedded devices. The company also offers various consulting services, hardware, and software for supply chain applications in the automotive industry.

This year, New Eagle has donated licenses for their Raptor software to the team. This donation will allow the team to precisely dial in their vehicle controls for SR-24, the upcoming electric vehicle that will be ready for competition in 2024. The team is grateful for New Eagle's donation, and is looking forward to using their software to push MSU Formula Racing into an electrified future!

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