



NOVEMBER 2019 NEWSLETTER

2019 Year in Review

The University of Texas at Arlington's Formula SAE team, UTA Racing, had an extremely successful 2018-2019 season while competing at FSAE Lincoln and the Sports Car Club of America Solo National Championship, as well as hosting our own competition, Texas Autocross. Before we were able to do all of this we had to design and build the car that we were going to compete with, F19.

Our 2019 car is powered by a Honda CBR600RR motor with a custom dry-sump oiling system and a 3D printed air intake to get the most performance from the engine as possible. To get all of the power down to the ground we used Hoosier's new 16.0X7.5-10 R25B tire. Supporting the tires are reiterated suspension kinematics with brand new hubs and uprights. These new corner packages were designed with manufacturability in mind and we were able to cut our lead time from months to a few days for new uprights! To get even more grip than the tires alone can provide, our aerodynamics team designed a brand new front wing and reconfigured rear wing to get the car's weight in downforce at just under 70 MPH. These wings are mounted unsprung so that not only do we receive the benefits of the increased normal load, we also do not have to compromise our suspension design to do so.



F19 at FSAE Lincoln during the Endurance Event

In 2019 our goal was to get the most amount of testing time possible without sacrificing the performance of the vehicle. We were able to achieve both of these goals with a driving car in early March of 2019 that proved to be very high performing. In the three months of testing that we had with the car we were able to validate many of our design decisions and considerations, but one of the most important factors of this was the ability to give our drivers a vast amount of seat time. This drive time manifested itself in our performances throughout the past year.

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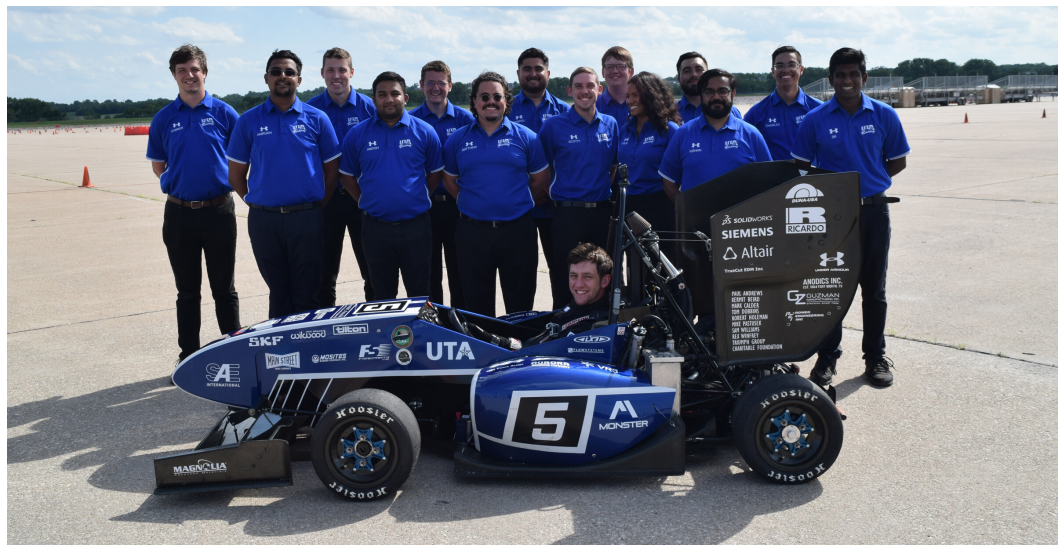


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Our fabrication facility has been outstanding for us since our program began in 1984 with the capability to build over 90% of the car ourselves, but in recent years we have designed more parts that require a CNC mill to manufacture. In the past we have had to rely on the generosity of our sponsors to have these parts fabricated, or suffered many long nights with a rotary table. This is no longer the case as we have recently acquired our own CNC mill!



First, the FSAE Lincoln competition. This competition is every year in mid-June held at the Lincoln Airpark in Lincoln, Nebraska. Over 80 teams were there to compete in the internal combustion class with an additional 20 teams competing in the electric portion of the competition. The competition is divided up into static and dynamic events. In the static events there is a business presentation, cost event, and design event. We did well in all of the events, but exceptionally well in design. The team made it into design finals for the first time in a few years. After the event was over we were ecstatic to hear that we had gotten second place in design after spending so much time prepping for the event.



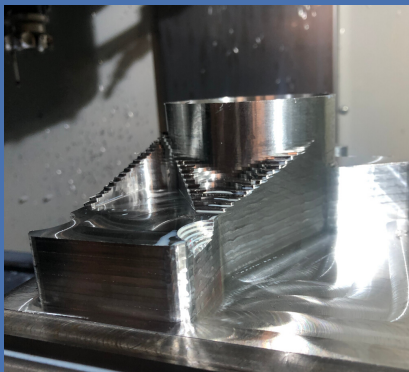
Following those we had the dynamic events - skidpad, acceleration, endurance, fuel efficiency, and the highlight event, autocross. We started off not as well as anticipated in skidpad and acceleration due to wet conditions on the track which dried out later on in the day. We finished the endurance event in the top ten as well, but the car finished on the podium in the autocross event less than a quarter of a second off of first place.

F19 with its three trophies
from FSAE Lincoln

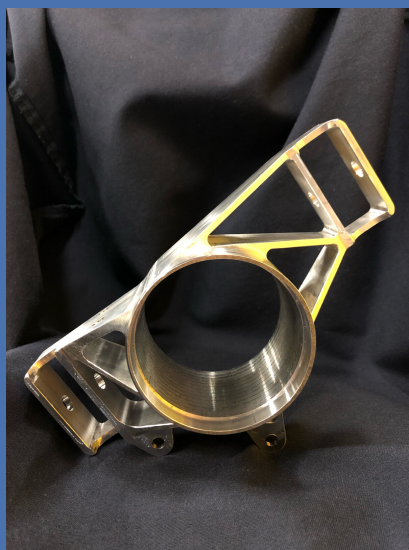


Close up shot of the logo on F19's headrest. We are always proud of our heritage!

Our most recent project was the uprights for the 2020 car! We have our team members learning how to do everything from programing the CNC to deciding how they are going to fixture the part during multiple set ups to ensure that the manufactured part and the designed part are the same.



We are very excited to push our abilities and better understand how to manufacture parts so that we can carry this on into the design aspects of our engineering careers!



For the SCCA Solo National Championship we took two cars and four drivers. The event is the largest participant racing competition in the world with upwards of 1300 drivers registered. Solo Nationals is divided up into two days of racing with two separate tracks, one each day. F19 took first place on both tracks and first overall in the FSAE class. Two of our other drivers also finished in trophy places within FSAE.



From left to right: UTA 2019, UTA 2016, Kansas 2019, Kansas 2018, Western Washington 2003, Kansas State 2019 along with the drivers from each college

To wrap up such an outstanding year we hosted our annual Texas Autocross here in Arlington. Nine colleges attended the event with a total of 25 FSAE cars. We were able to get 13 UTA cars running for the event, going all the way back to 1984! This event had three separate tracks, two were raced on Saturday and with a third on Sunday. This was a great opportunity for teams to come and compete in a more relaxed environment than competition as well as invite friends, family, and sponsors to see what we spend all of our free time doing. F19 took first place on all three tracks throughout the event.



A Group photo of all cars and participants of the 2019 Texas Autocross event held at the University of Texas at Arlington

We hope that this newsletter keeps all that are interested in what UTA Racing is up to on a monthly basis! We welcome your comments. Please visit us at utaracing.com/contact.