Making the pinnacle of Brown FSAE designs, the focus of the 2011 car was to make the car as driver friendly as possible while retaining performance. Upon driving the 2011 car every senior member noted how this year’s car had the best handling out of any Brown FSAE car they had ever driven. Ben Freudberg ('12), the Ergonomics lead did a spectacular job all around this year, but his crowning achievement has to be creating an adjustable pedal box, enabling every single member of Brown FSAE to drive the BRV’11, regardless of height. The pedal box is incredibly easy to adjust, by simply moving their feet, the driver can adjust the pedal box to their height by pulling a cable while sitting in the cockpit. The pedal box is incredibly light and performs better than its predecessor. The 2011 car also includes several special features like launch control and traction control, which really help our race times. The most significant addition to the 2011 car is the inclusion of a data logger. The 2011 car performed so well that the only way to improve the data logger is by taking it out of the car and replacing it with a new one. The BRV’11 was completed just three weeks before competition, giving us plenty of time to tune, test, and improve our design. The 2011 car is the most efficient design to use the information from the data logger. The 2011 car includes several special features like launch control and traction control, which really help our race times. The Aerodynamics of the 2011 car are also superior to its predecessor, thanks to Max Gecman ('13), the Aerodynamics lead. The BRV’11 is lighter than the BRV’10, after the Team switched to the Honda RR Sports Bike engine. As has been traditional, the focus on reliability led to the development of the 2011 car. The Aerodynamics of the 2011 car are also superior to its predecessor, thanks to Max Gecman ('13), the Aerodynamics lead.

The 2011 Competition Results

<table>
<thead>
<tr>
<th>Overall</th>
<th>25th</th>
<th>472 / 1000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endurance</td>
<td>23rd</td>
<td>127.7 / 400</td>
</tr>
<tr>
<td>Autocross</td>
<td>51st</td>
<td>28.2 / 150</td>
</tr>
<tr>
<td>Acceleration</td>
<td>16th</td>
<td>57.5 / 75</td>
</tr>
<tr>
<td>Slidepad</td>
<td>47th</td>
<td>27.8 / 50</td>
</tr>
</tbody>
</table>

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The year ended with another exciting competition in Detroit. The weather was hot and humid; something that baffled senior members throughout the week. The car ran smoothly without any major failures. We passed through technical inspection on the first try, a huge accomplishment. A speedy pass through all of the safety inspection gave David Brown ('11) some time in the practice pits before any of the dynamic events.

The business presentation went smoothly, and the design presentation was a huge success. The team missed out on making semi-finals in design by two points, which was a huge disappointment. However, the judge who gave us our score went out of his way to emphasize how impressed he was with our car and to tell us that he is expecting great things from Brown FSAE next year.

Each of the dynamic events was successfully completed, with the car performing very well. Senior Eli Bashevkin showed his skill during the acceleration, winning the team 16th place.

Later senior David Brown cruised through the endurance race, making his mark on the track and impressing spectators.

THE TEAM

In 2011, the team welcomed a number of new members to the team (check out the bios on our website for more details) including Colden Eldridge, Kerri Hilton, Ning Hou, Warren Jin, Ryan Marinelli, Jeanette Miranda, Sophie Qiu, Josh Ra’an, Jason Shum, Stephen Weinreich, and Jay Young. Now versed in the ways of machining, and the lore of the shop, they’re eager to lead subsystems of their own and begin teaching the 2012 new members how to build a race car, and have fun doing it.

The team’s four seniors have graduated. David Brown, 2011 team captain and chassis and suspension lead, moved to Michigan to work for GM as a chassis controls engineer. Eli Bashevkin, 2011 powertrain lead, ever interested in rockets, is...
at Stanford pursuing a master’s degree in aerospace engineering. Nick Vina, 2011 powertrain lead, headed south to the metro DC area to work as a project engineer for DPR. Elinor Fung, 2011 electronics lead, is at Microsoft working as a software development engineer in test for Visual Studio. Therice Morris, 2011 chassis welder extraordinaire, will be away from the team as she spends her junior year studying abroad at Cambridge. We wish them all luck, and will miss their presence (and wisdom) in the shop this coming year.

THE FUTURE

The plan for the coming year is to refine and improve upon the already very robust design of the 2011 car using data collected by the data logger. To this same end the team is adding even more sensors to the car including mass airflow and steering position sensors, as well as a GoPro Camera for driver training and, amazing promotional videos.

Brown University is building us a brand new shop which will have everything we had in our old shop with a few added bonuses including, for the first time in Brown FSAE history, windows! While much of the summer was spent preparing for the move, a good deal of first semester will also be devoted to making the move run smoothly. This will require a shorter build period to make up for the lost time. There has also been a change to the teams design structure, while in past years several senior members were put in charge of a general area of the car, this coming year the new team lead, Ben Freudberg (’12), has allowed every returning member to take on some design responsibilities so that everybody can put their ideas into the 2012 car.

The 2011 team is a young but strong team. The influx of new members this past year has created an extraordinary pool of talented sophomores. They have proved time and time again that they are committed to the team as well as very assertive and competent future engineers. We were impressed with the abilities of the younger members this past year, and as these students continue to learn and take on new responsibilities they will become completely invaluable to the team. We look forward to the coming year and the new challenges it brings.

A big thank you goes out to all of our sponsors. All of us learn a tremendous amount every year. We are better engineers and better people because of this project. It would be impossible without you.