

Chairman's Award - Team 3925

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2020 - Team 3925

Team Number

3925

Team Name, Corporate/University Sponsors

Yardi Systems Inc./Haas Automation/College of the Canyons&Ventura High School&Buena High School&Foothill Tech High School&Ventura County Career Education

Briefly describe the impact of the *FIRST* program on team participants within the last five years.

We have enabled students to learn new skills and apply them in a fun and engaging way. Some of our students come from local FLL teams, and some try Robotics for the first time in our High School FRC class. All of our students volunteer throughout the year at various STEM events. Our alumni often receive STEM scholarships due to FRC, and pursue STEM education or careers. Our alumni have worked on a wide range of projects including Space projects, Hyperloop prototypes, and advanced machining.

Describe the impact of the *FIRST* program on your community within the last five years.

We actively participate in local events to promote STEM and FRC. Our Robot and Students were featured on NPR's Science Friday. We also bring our robot to school events like the Readers' Faire to work with K-3 grade students. Our program is supported by many local businesses who donate generously to support our program. We are very active in the local First community. We host the local FLL qualifier event, and work with other FRC teams to host an off season competition at the Camarillo air show.

Describe the team's methods for spreading the *FIRST* message in ways that are effective, scalable, sustainable, and creative.

Our first goal is to ensure that the school district is aware of our program. We often drive our robot on campus for events, like freshman orientation, to promote our class to students. Next, we participate in a variety of community events where we answer questions about our FRC program. One event that promoted First in a huge way was the Wings Over Camarillo airshow off season competition. Over 40,000 people attend this airshow, and this will now be an annual event due to positive feedback.

Describe examples of how your team members act as role models and inspire other *FIRST* team members to emulate

Our team is student led. Each year students elect student directors and managers who will serve as leaders for the team. Our student leaders strive to pass on a team culture that embraces ALL students being able to participate and learn. Our student leaders lead by example, and guide and teach our next generation of leaders and team members. We often will have other local FRC teams in our class, either for scrimmages, help with machine parts, or borrowing a crate to ship a robot to go to worlds.

Describe the team's initiatives to help start or form other FRC teams

Our team was key to starting the Gold Coast Robotics Alliance (GCRA), as a response to the many new county robotics teams being formed. GCRA provides a forum for teams to collaborate with each other and organizes and hosts the off season Wings Over Camarillo competition.

Describe the team's initiatives to help start or form other *FIRST* teams (including Jr.FLL, FLL, & FTC)

Cabrillo

Describe the team's initiatives on assisting other *FIRST* teams (including Jr.FLL, FLL, FTC, & FRC) with progressing through the *FIRST* program

Cabrillo

Describe how your team works with other *FIRST* teams to serve as mentors to younger or less experienced *FIRST* teams (includes Jr.FLL, FLL, FTC, & FRC teams)

Many of our students gain their required community service hours by volunteering their time to judge, be judge's assistants, and referee at FLL events. Starting this year, we are organizing and hosting the regional FLL qualifier.

Describe your Corporate/University Sponsors

Haas Automation - A global manufacturing company Yardi Systems - A global software company College of the Canyons - Support through their manufacturing consortium. Ventura Rotary - A local civic organization of many local businesses.

Describe the strength of your partnership with your sponsors within the last five years.

Haas Automation is a very active sponsor. Last year Kurt Zierhut visited our class and was impressed with our program and the skills we teach our students. Yardi Systems is a new sponsor. We received a generous donation and we are working to strengthen this partnership. College of the Canyons provides local robotics teams with grants for their programs. Ventura Rotary is a long time supporter. We stay in contact with several members and look forward to their continued support.

Describe how your team would explain what *FIRST* is to someone who has never heard of it

FIRST is an opportunity, it allows students to explore leadership, it is the most fun you have ever had learning new skills and exploring new technology. Oh, and you build a robot too!

Briefly describe other matters of interest to the *FIRST* judges, if any

Our students run the class and build the robot - mentors only advise and are hands off. Our students now manufacture all our own parts on our Haas CNC mill, Velox CNC router, lathes, and other manufacturing equipment. We collaborate with other local FRC teams, host the local FLL event, run an FRC regional, and run an off season FRC event.

For FRC teams older than 5 years, briefly describe your team's broader impact from its inception.

In 2011, ten students started a robotics club that quickly grew to heights they could never have imagined. We are now a founding member of the Gold Coast Robotics Alliance and host and run the Local FLL qualifier and the WOC Camarillo air show as well as hosting the local FRC Ventura regional and providing volunteers at most nearby competitions.

Team Captain/Student Representative that has double-checked this submission.

Adeline DeLamar

Essay

Team 3925 Chairman's Essay (2019-2020)

In 2011, ten students dedicated themselves to making robotics available and easily accessible for the entire Ventura County region. Since then, those ten students have changed the lives of thousands of young engineers by providing a diverse and challenging environment where students can learn and apply STEAM skills to robotics. Because of FIRST, Team 3925, Circuit of Life has been able to inspire countless students in following b careers in STEAM, and we aspire to help new students to do the same.

In 2019, we founded and hosted the first Wings Over Camarillo Off-Season Competition at the Camarillo Airport during the Wings Over Camarillo Airshow. This competition, planned and executed in just six weeks, was put on in partnership with the Gold Coast Robotics Alliance (GCRA) and presented an amazing opportunity to open up a FIRST Robotics Competition to the 40,000 people at the airshow. It was completely free for the teams and public to attend and was a great way for rookie and veteran teams in the region to gain competition experience, get to know each other, and interact with the community. We received immensely positive feedback from all 19 teams that attended this event, and plan to host it again this coming year.

Volunteering with the First Lego League has always been the most rewarding experience for our members. We recently hosted the first annual FLL tournament at Ventura High School (VHS) after volunteering to take over the regional tournament from the original hosts. We gave tours to over 100 young students throughout our campus and our robotics facilities. This program encouraged kids to engage in and explore robotics and STEAM. The FLL tournament was very successful, thanks to our many volunteers and participants. We did our best to show the next generation of robotics students what it means to be a part of the 3925 family by putting on events like Reader's Faire and Discovery Day. These events are aimed to pique younger students' curiosity and give them first-hand experience in a STEAM-focused environment. We also had our team demonstrate our robot to the Boys And Girls Club.

Aside from FLL, we have helped to create many FRC teams such as Team 6398, 6553, 6764, 6934, 7323, 7324, 7326, and 7327. We have continued to allow these teams to use our facilities, giving lessons on how to use machining equipment, and providing CAD files for the key components of our competition robots. We have mentored two middle school teams, Team: 27677, "The Rusty Sailors" and the Team: 27561, "Riptide Robotics." We help junior high students do what we love by creating a pathway from an FLL team to an FRC team such as us in the future. Being a high school team, it helps younger students to see what they will be doing in the future. It inspires and gives them a taste of what is to come by encouraging them to pursue robotics and instilling a love for STEAM to them all. We try to inspire all ages to have a passion for robotics in just the same way our team does.

A key way our team promotes collaboration with these and other teams, is through our rapidly growing alliance, the GCRA. The GCRA is a non-profit dedicated to uniting FIRST Robotics teams within and around the Ventura County region. Currently, the GCRA consists of seven teams that share knowledge, parts, facilities, and online resources with each other. So far the GCRA's biggest achievement has been turning what was previously a small robotics showcase at the Wings Over Camarillo Airshow into a complete off-season competition in 2019 (all in the span of six weeks!). Despite being started in 2019, the GCRA has been a dream of Team 3925 for years coming and we hope its effectiveness serves as a prime example for other teams to form their own alliances. In the future, we plan to expand and continue upon our mission of making robotics more connected and more accessible.

Team 3925 consists of students from four different high schools within our district, VHS, Buena High School, El Camino High School, and Foothill Technology High School. Our team is dedicated to giving back to our city. Community service is a very crucial focus for our team and accounts for 20% of all students' grades. But even without that incentive, our students' great dedication and commitment motivates them to participate and volunteer. Last year our team had over 1,000 cumulative community service hours. In the past five years, we estimated our hours to be over 11,500 from all activities and events.

Our 45 person team is completely student-run and receives many post-high school mentors who share a love of the program. Adults in various STEAM professions come to help guide and teach us new skills. These mentors often find themselves dedicating a lot of their precious time to help us succeed. These mentors do not run the team, but rather, they help to make us a better group. We are a student-led team and the mentors are to help us and offer their knowledge.

Our team has developed a curriculum that allows it to be an elective class, meaning our students get school credits for their time and hard work. This curriculum challenges our adventurous students and prepares them for their futures. Students learn about all aspects of building the robot and how to work efficiently as a team. They are given the opportunity to collaborate and also lead their own prototyping projects, help design a robot that will compete, and be a part of a STEAM oriented community. They learn the processes which must be completed to bring their ideas to life, from concept to finished product. We have strict deadlines, set by our student leaders, that ensure our students learn how to work quickly under pressure, while still producing high-quality work. This forces our students to prepare for things that they may experience later in life and ensures the responsibility that we hold our team to benefit the members beyond the classroom.

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Student leaders are people who have shown dedication to the team, STEAM, and helping spread the knowledge of robotics. On our team, we have many leadership positions, among them are department managers for our Electrical, Mechanical, Business, CAD, and Programming teams. These positions allow students to get valuable experience in teaching and managing their departments while still coordinating with their fellow leaders. These opportunities are available for anyone and let the most ambitious of students to help drive the team forward. Students evolve into leadership positions through a pathway that develops them as individuals, and as their skills improve on the team they are able to help others skills improve as well. The seniors work with the lower classmen, and freshmen to take over their own positions and rotate so that the program becomes self-sustaining. Our team also prides itself on not only helping the class but inspiring others.

We pride ourselves on the fact that we manufacture more than 90% of the components for our robot in-house. In 2018 our team began focusing on manufacturing our own aluminum parts rather than outsourcing them. In 2019, we purchased a CNC router in addition to our CNC mill. Our focus was placed on students working with CAD and manufacturing their own parts. Our current manufacturing team includes a diverse group of students from every grade level. We involve members with all levels of skill and new students are taught how to create parts by experienced members of the team. Recently we have welcomed and encouraged more gender diversity and more freshmen to the team. More than 20% of our team is female and about 25% of the team are freshmen.

Team 3925 strives to be as supportive of both the youth and parents as much as possible. Through several outreach opportunities, our team has helped spread the knowledge of STEAM and brought our team to a greater level. We have been featured on Science Friday, an NPR talk show focused on spreading education on nature, science, and technology that is aired on nearly 400 radio stations across the country.

One of our keystone achievements is the Ventura Regional, which was started as a collaboration between our team and Team 4711, The Flying Aces. The regional is completely hosted by our team and has been put on every year since 2014. Our team consistently provides approximately 25% of the volunteers, and those not volunteering act as guides to host tours throughout the pits. This has gained immense positive feedback from not only those who go on the tours, but also the teams who enjoyed seeing more than just other teams and judges in the pits. These tours introduce the younger generation to FIRST Robotics by showcasing the teamwork and skills of every team, as well as the demonstrating the energy and excitement of a FIRST Robotics Competition. And hey, who doesn't like getting buttons from all the teams? This is just another great way that our team tries to give back to the community.

It is our goal to be a defining part of the community, inspire other teams and students, and give back to the families, teachers, mentors, and local businesses that make our team possible. We are especially proud to work with the Ventura Unified School District in order to open up new classes, host workshops, and above all, give back to the individuals who have contributed to making this experience possible. Team 3925 has always relied on our community, and we have always strived to give back to them in any way we can.