

Chairman's Award - Team 3925

Team Number

3925

Team Name, Corporate/University Sponsors

Haas Automation/Amgen/College of the Canyons/Sessa Mfg./Qualcomm & Ventura County Career Education & Ventura High & Foothill Technology High & Buena High & El Camino High

Briefly describe the impact of the *FIRST* program on team participants with special emphasis on the 2016/2017 year and the preceding two to five years

Team 3925 has a supportive environment that allows our diverse members to gain hands on experience in the STEM field. Students with no prior knowledge of robotics learn from experienced members and mentors. Being a part of FIRST provides students not only with technical skills but also soft skills necessary for professional situations. FIRST allows students to gain financial aid from various scholarships, which allows team members to further their education and experience with STEM careers.

Describe the impact of the *FIRST* program on your community with special emphasis on the 2016/2017 year and the preceding two to five years

Team 3925 is dedicated to our local community, and works with six different community centers through a variety of afterschool programs. Volunteers teach a 12-week STEM education curriculum created by a team member. In addition, our team was instrumental in creating an AP Computer Science program at our school which affects over 9,000 students every year through an Hour of Code outreach program. This allows us to spread STEM through friendly competition to the young members of our community.

Team's innovative or creative method to spread the *FIRST* message

Team 3925 has made it our mission to spread the FIRST message to our school and community. Along with the course we teach at afterschool programs and outreach with our AP Computer Science program, our team works with the English department's Reader's Faire to write and read children's books centered on our current robot. The team also gives demonstrations through our high school science department's Discovery Day, in which elementary schoolers are able to operate the robot and learn about STEM.

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

As a team, we have actively spread the ideals of STEM education. We have established strong relationships with the FIRST community by volunteering at FLL Tournaments and mentoring other teams. We also plan to host an FTC competition in Ventura. With gracious professionalism in mind, we have guided FIRST teams to achieve their goals of innovation, leadership, and STEM education. By getting involved in outreach programs, our team has inspired students to start or join the FIRST family.

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

Team 3925 strives to expand our FIRST family. We started FRC team 4711, the Flying Aces, our sister team four years ago, and have spent a lot of time ensuring that they can be successful. Since 4711 has become a more experienced team, we have helped establish and mentor FRC teams 6398 - Kilo-bots; 6553 - Spartacus, and 6764 - Fillmore Flashes. Because of the larger number of schools interested in FRC, we hope to start an FRC team in Hueneme and other parts of Ventura County next year.

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

We enjoy our involvement in the FIRST community by learning about the fundamental elements of STEM. We believe that all students should have the opportunity to benefit from the same experiences as our team; that is why we have encouraged FIRST Robotics to spread to Cabrillo and DATA Middle School. We have started FLL Teams 16529, 27561, and 27677 in the past two years and are currently hoping to start FLL teams at Balboa and Anacapa Middle Schools and an FTC team at Balboa Middle School.

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

We pride ourselves as a team who exhibits Gracious Professionalism. We invite teams with limited resources to use our machinery, including our HAAS CNC machine. They can also send designs for us to cut. For the past three years Team 3925 has passed out part kits at the USC kickoff; we have also organized a kickoff in Ventura. In addition, Team 3925 has made game pieces including parts of the Boiler, and has distributed them to teams. We have gladly shared knowledge with other teams.

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)

For several years, Team 3925 has mentored FRC Team 4711. Since we have helped start more FRC teams this year, we have opened our room up to newer teams so they can work with us on their robots, use our field elements, and ask questions. Our leaders have also spent many hours in other FRC team's facilities helping fix errors in code, and providing knowledge in construction and strategy. We have also coached the FLL teams, provided work space, and assisted in refining their presentations.

Describe your Corporate/University Sponsors

Team 3925 prides itself on creating strong connections with local businesses. Our sponsors include local universities, regional, and national corporations with operations in STEM related fields, such as The Institute of Electrical Engineers, Haas Automation Inc., Amgen, Qualcomm, and College of the Canyons. In addition, Team 3925 interacts with many local small businesses in an effort to create strong ties within the community and gather support for STEM education in Ventura County.

Describe the strength of your partnership with your sponsors with special emphasis on the 2016/2017 year and the preceding two to five years

Team 3925 communicates with our donors to keep them up-to-date with our progress as a team. We are proud that all of our sponsors return year after year. The team conducts itself professionally; we post monthly newsletters to our website, and write thank you letters to all levels of our sponsors. We plan to create a sponsor appreciation event in which we will demonstrate our robots from several years, honor our supporters, and express our gratitude for all the help we receive.

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

FIRST is an international organization which gives students the opportunity to enhance STEM skills and become successful innovators. The organization offers STEM education to students in elementary school through high school, and encourages cooperation, communication, and teamwork. By presenting physical and mental challenges, FIRST stimulates globalism, ingenuity, and efficiency in teams across the world.

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

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

Kiernan Rickard

Essay

Team 3925 is well known throughout our community for our sense of family, which extends far beyond the confines of our team. As a family, we stress the importance of diversity and integrate that diversity into everything we do. We welcome credit deficient students, AP students, students with physical and learning disabilities, students with Asperger's, and anyone who wants to become a part of our family. Inside our workroom there is a role for every student and his or her different abilities. We combine all of our talents to work together and make collaborative decisions. In our experience, we have found that some of the best ideas come from the most unexpected people. We benefit from the various viewpoints and educated opinions that we wouldn't be able to find without every unique member of our 60-student team.

To us, robotics is more than a club, and is now recognized as such. Our team started in 2011 as a high school club with only a few members, but by the end of our first organizational year, we expanded to over 40 members. It soon transformed from a club into an official A-G University of California approved class that formally teaches STEM skills, attracting even more students to our team. Promoting STEM is one of our most prominent goals as a team.

Because of the many benefits we have gained through STEM education, we feel it is essential to give other students in our community the same opportunities. We go to four local Boys and Girls Clubs and two PEAK/ASES afterschool programs every week to teach the basics of robotics and introduce the possibilities in engineering. This year has been our third year teaching at these clubs and our first year teaching at PEAK/ASES. Our lesson topics include programming skills using child friendly coding websites such as Code.org, building and wiring tin can robots, teaching the basics of aerodynamics with paper airplanes, explaining how our own FRC competition robots work, driving competition robots

from previous years, and educating the students about the value of STEM education.

Also, we participate in the Reader's Faire every year at Ventura High School. Our team creates a children's book that is based on the current competition robot. Then we provide a demonstration with the robot and allow elementary school students the opportunity to drive the robot. This year we will also participate in Discovery Day at Ventura High School for the second time. Both Discovery Day and the Reader's Faire are educational events which teach elementary students through activities that we create in collaboration with our English and Science Departments.

Team 3925 has also affected our school programs. Due to the increased interest in programming after Team 3925 started, Ventura High School finally attracted enough students to start an AP Computer Science class. Now, there are 3 AP Computer Science classes at Ventura High School with over 95 students participating. In addition, the computer science program works closely with Team 3925 every year to participate in a national Hour of Code outreach program, where we teach programming to over 9,000 elementary and middle school students in the Ventura Unified School District. This outreach program has exposed young students to STEM for the past 4 years.

Each year we enjoy volunteering at FLL tournaments; this year we worked as Project, Core Value, and Robot Design judges as well as referees and assistants at two FLL tournaments and two practice tournaments. For the past two years, because of our Gracious Professionalism and the fact that we comprised over half of the volunteer force, we won the Outstanding Volunteer Award for our work at the Los Angeles Region Qualifying Tournament. Volunteering with FLL is a rewarding experience for all involved because we have the opportunity to be mentors ourselves to the young FIRST members. They look up to us and ask questions about what it is like to be in the high school FRC division. We want to ensure the continuation of FIRST robotics in our community through helping any and all FIRST events in our area.

In our continuing quest to promote FIRST ideals, we have started and mentored three local FLL teams in the past two years; 16529 - Mr. Fusion; 27561 - Mariner Mayhem, and 27677 - Cabrillo Mariners. This was a wonderful opportunity for our feeder middle school students to learn about FIRST, and has created a symbiotic relationship between these teams and 3925. Team 3925 has a wealth of knowledge about Gracious Professionalism, teamwork, and speaking skills that we love to impart on FLL teams. These FLL students are great additions to our team and help us assist other FIRST organizations in order to share our passion for what we do. When we mentored these FLL teams in our robotics lab, we were able to show them what it is like to be in a high school robotics class. Each evening of mentoring, robotics students worked with the FLL teams and guided them in areas of their competition. For the project and presentation aspect of the FLL competitions, Team 3925 listened to their project plans and offered educated advice on their topic. Through mentoring the FLL teams, we ensure that these young students continue on as a part of the FIRST family.

Team 3925 is dedicated to furthering all FIRST organizations and we take that responsibility very seriously. With that mindset, our team hopes to not only mentor these three teams, but to find and help any other team in need of guidance. We have done just that when we started FRC Team 4711 in 2013. We are proud to be the sister team to this fourth year team. We help 4711 by teaching them machining, wiring, programming, and leadership skills. This is aligned with a primary goal of FIRST - to work well with other teams and guide them through the challenges of competitions. For competitions, Teams 3925 and 4711 travel together and help at each other at every step.

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In addition to helping 4711, Team 3925 also helped start and mentor FRC teams 6398 - Kilo-bots; 6553 - Spartacus, and 6764 - Fillmore Flashes. In our classroom, we helped these new teams CAD their designs, build their robots, and gave them tips on their business essays. Our team leaders also provided answers and demonstrations for all aspects of FRC electronics, programming, and strategy. Along with having new teams work in our facilities with our machinery, Team 3925 has also sent experienced members to their facilities to assist with any issues the rookie teams encounter. Team 3925 believes in mentoring these new teams until they have enough knowledge and skills to mentor new FRC teams themselves in the future.

We have created a very sustainable team, with a comprehensive training plan which takes students from elementary to middle to high school. Our incredible mentors from companies such as Haas help to encourage us in the processes of robot design, manufacturing, electrical wiring, and programming. These mentors are very important to us because we take pride in the vast amount of knowledge they possess and their ability to impart upon us their wisdom and wide range of skills. In order to maintain a long lasting team, we make it a point to allow every member to have an equal opportunity to become a leader. Mentors conduct interviews and select leaders. We emphasize positive relationships between students, as this is vital to keeping this team productive and engaged.

Last year we were looking for new ways to make our future robots more innovative and efficient. Through CAD design and team input, we created an interchangeable electrical box which can be used by our various robots. Our students design the framework to our competition robots with SolidWorks which are then fabricated by our teammates at a local metal shop. If further modifications are needed, we have access to a Haas CNC machine that allows our team to create our own parts. By holding strategy and design meetings that include the whole team, we are able to get maximum input on how to accomplish challenges presented by FIRST.

Team 3925 has an outstanding number of community services hours associated with each member. In the past five years, we estimate our team-only community service hours are over 5,800; we have over 11,000 collective hours for all activities. This year, our team's service hour total exceeds 1,200 hours. This is a great achievement because 500 hours of that team total is attributed to our volunteer hours with FLL competitions and mentoring FLL teams. These hours are a

testament to our hard work and conscious effort to go out into the community and spread the values of FIRST and STEM education.

Team 3925 is dedicated to serving our community, creating innovative designs, and working with community members and corporations. Our motto for our team is, "leave a legacy, not a mess." To accomplish this goal we have made a strong effort to work well with all departments and aspects of FIRST. We collaborate with five FRC Teams and encourage them to machine their parts at our machine shop. This partnership allows our team members to practice competition skills such as speaking to other teams with robots of differing abilities. Team 3925 also practices Gracious Professionalism as we share our field elements and Haas CNC Machine with FRC teams 3863, 4711, 6398, 6553, and 6764. In addition, we have made more accurate versions of the boiler high goal and have distributed these to fellow FRC teams. We value this community connection to other teams in our area because it helps create a network of teams in the Southern California area. These ties are invaluable because when one of our SoCal teams succeeds, it is a win for us all. Team 3925 believes in promoting and helping all teams, and finds validation in the sheer fact that we can and will help any FIRST team.