

ASTA/Team Inspiration Community and Outreach Activities

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Team Inspiration's motto is *To Learn, To Share, To Innovate, and To Inspire*. As such, Team Inspiration participates in various outreach programs to educate the next generation about robotics. Throughout the year, Team Inspiration has spread knowledge of RoboNation's competitions and learning outcomes through both local and global outreaches. In addition to previous years' outreach activities, we added the Girls Inc.'s Eureka Summer Program, the Blue Tech Maritime Museum outreach, and started mentoring the first-year RoboSub team from Bangladesh, Project Poseidon's Code.

In order to offer opportunities for local students to gain hands-on experience by joining the team, we organized a kickoff meeting (Fig. 1), which allowed students to learn more about the team. The team gave a presentation and then demonstrated an autonomous underwater vehicle (AUV) and an autonomous surface vehicle (ASV) in the pool.



Fig. 1. Team Inspiration kickoff outreach, presentation and demonstration

From the beginning of the 2026 RoboSub season in the fall of 2025, our team had already planned for local outreach opportunities and arranged for a few events. At the Miramar Air Show (Fig. 2) last

September, we presented our AUV from RoboSub to over 5,000 people.



Fig. 2. Team Inspiration outreach at the Miramar Air Show, showcasing our AUV

In an effort to expand the impact of our team, we also went to the Blue Tech Maritime Museum Outreach (Fig. 3) to present our robots. We operated our AUV from RoboSub and ASV from RoboBoat in the San Diego Harbor, attracting many visitors and robotic enthusiasts.

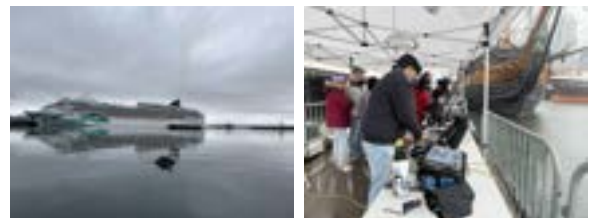


Fig 3. Team Inspiration outreach at the Blue Tech Maritime Museum, presenting our ASV and AUV

In April, our team showcased our ASV and AUV at the San Diego SeaPerch Competition (Fig. 4), drawing over 150 students and parents. During the judging break, we let SeaPerch students learn and interact with our robots, showing them the

opportunities available beyond SeaPerch. This is our 4th year of supporting the San Diego SeaPerch Competition.



Fig. 4. Team Inspiration outreach at the San Diego SeaPerch competition in 2026.

In the summer, our team will be continuing to conduct intensive workshops in partnership with the Girls Inc.'s Eureka Summer Program at University of California, San Diego (UCSD) (Fig. 5), UrbanLife Ministries (Fig. 6), Manna's Martial Arts, and University of San Diego (USD) STEAM Youth and Community Conference for the underrepresented and underprivileged students. Similar to our prior years' workshops, we will be teaching students how to build remote-controlled and autonomous robots incorporating various sensors, and how to program the robot to complete various tasks.



Fig. 5. Team Inspiration outreach at Girls Inc.'s Eureka Summer Program



Fig. 6. Team Inspiration outreach at UrbanLife Ministries' Summer Camp

Advancing Science, Technology, and Art (ASTA), the main sponsor of Team Inspiration, has partnered with San Diego Mesa College through the Mesa Impactship (internship) program (Fig. 7) to provide the college students with opportunities to learn robotics by participating with Team Inspiration in competitions such as RoboBoat, RoboSub, and RobotX. These competitions allow students to gain hands-on experience in the mechanical, electrical, and software subsystems of their choice as well as organizational and leadership skills, preparing them for future internship and full-time employment. By concurrently enrolling in a work experience course, student interns are empowered to work with purpose and guided by SMART (specific, measurable, achievable, realistic, and time-bound) goals. With this approach, we have successfully recruited seven active RoboSub members who are developing professional skills in mechanical, electrical, and software engineering and contributing to impactful outcomes, preparing them for real-world employment.



Fig. 7. San Diego Mesa Impactship program

In addition, the Impactship program (with the support of ASTA) has also enabled students interested in other domains of autonomous vehicles to establish a Full Self-Driving (FSD) Club within Mesa College. The goal of the FSD Club (Fig. 8) is to develop a fully autonomous racing Go-Kart to compete in the Autonomous

Karting Series (AKS) in May 2026. The FSD Club was also established to address the lack of engineering and robotics presence in San Diego community colleges. This aims to give students mechanical, electrical, and software skills for students to use towards applications such as transferring to a University of California (UC) or a California State University (CSU), or towards work experience such as internships and jobs.



Fig. 8. The FSD Club at the competition

Team Inspiration played a key role in turning the Mesa College FSD Club from a new, unproven idea into a structured, competition-ready robotics team. By leveraging the decades of experience in autonomous robotics and systems engineering, our team provided mentorship on technical architecture, development timelines, and subsystem integration, helping the club adopt professional engineering practices from the start. Our team's guidance in organization, planning, and documentation established a sustainable team structure for the club while exposing students to industry-relevant mechanical, electrical, and software workflows. The club's self-driving Go-Kart (Fig. 9) went from zero funding, zero materials, and zero members in September 2025 to place 5th in the nation at the AKS competition at Purdue University in May. As a result, our team significantly strengthened the club's ability to prepare community college students for AKS competition, UC/CSU transfer

pathways, and engineering internships or careers.



Fig. 9. FSD kart running at Purdue's race track in the competition

In addition to local outreaches, our team extends its knowledge to the global community. Actively coaching FIRST Global teams in Benin, Ecuador, Eswatini, Haiti, Paraguay, and Togo, our team connects with coaches from abroad and works to create a transformative robotics experience for students (Fig. 10).



Fig 10. Togo team members with their robot (left) and Team Inspiration meeting with Paraguay team members (right)

We also reached out to a rookie RoboSub team, Project Poseidon's Code (Fig. 11). We guided this Bangladesh team on the fundamentals of RoboSub, providing them with access to several resources, such as our homegrown RoboSub 101 document, and answering their questions. We guided them on starting their RoboSub team, designing their vehicle, selecting sensors, and strategizing for the competition.



Fig 11. Zoom with Project Poseidon's Code

From each of these outreaches, we are able to transfer our knowledge and share our experiences with students in both the local and global communities. These events reinforced the team's learning and gained internship opportunities for team members to apply their knowledge to real-world maritime applications.

Earlier this year, the team successfully delivered a retrofit of a General Dynamics Hovering Autonomous Underwater Vehicle (HAUV) for SeeByte (Fig. 12). For this summer, one student will enhance the HAUV with SeeByte Neptune - Mission Level Autonomy software. Two students will retrofit additional two HAUVs for SeeByte with the goal of a collaborative multiple vehicles mission. Another student will join Deep Sea Exploration.



Fig 12. 1st HAUV delivery (top) and HAUV ocean validation (bottom)

Additionally, the team alumni modified the WAM-V to support autonomous vehicle research performed by a local company for their contract with the Navy (Fig. 13).



Fig. 13. WAM-V operating in San Diego water

The team is very excited for the opportunities to apply their marine autonomous vehicle knowledge to real-world applications.