

Community and Outreach Activities

Team Inspiration's motto has always been to not only give dedicated students an environment to pursue their passion of robotics, but also to spread robotics knowledge that members have gained to the local and global communities. Our pursuit of this goal has evolved out of the sole purpose of giving back to our communities and now is also a strategy to bring new talent onto Team Inspiration.

I. OUTREACH AS A RECRUITMENT STRATEGY

Since Team Inspiration's initial RoboNation competition (RoboSub 2019), the majority of original team members have left or transitioned to serve mentor roles – this means that Team Inspiration has had to cultivate a second generation of members to take over the reins of the first. The team does this through receptivity to any demonstrated interest by students, as well as active outreach.

In search of a robotics program that he can join, our RoboBoat team captain, Keith Chen, went to the RoboBoat 2024 competition at Nathan Benderson Park in Sarasota, Florida. Being an 8th grader with no robotics experience at the time, there were no options for him to join any college or school teams. The only viable option was to join a community team like Team Inspiration. So Keith joined Team Inspiration's RoboSub team, where he eventually became the team captain for RoboSub 2024, living in San Diego for three months on-location of the team's lab, being offered accommodations by mentors Alex Szeto and Teresa To. He led the team to the finals and achieved 5th place overall!

Leonard Wright, our RoboBoat 2025 team's software lead, joined Team Inspiration during RoboSub 2024, following his sister Lindsay's steps. Like his sister, he completes most work remotely while he attends college in Florida. Yet, they are opposites in that Lindsay functioned as a hardware and systems/test engineer, while Leonard answers the robots'

software needs. When he was in person to prepare for RoboSub 2024, he quickly learned the networking, electrical, and software design tactics needed to bring Team Inspiration to finals. Now, he is continuing to develop software for the boat built by alumni.

Brandon Tran first heard about Team Inspiration from a friend and submitted a request to join the team. He was a supporting team member in RoboSub 2024 and RobotX 2024 and now a member in our hardware subteam. Appreciating the significant learning opportunities offered by our team, Brandon reached out to his fellow students from Westview High School to join the team (Fig. 1).

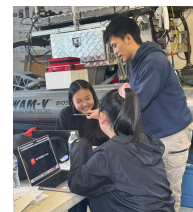


Fig. 1: Team Inspiration's mentorship of Westview High School students.

Advancing Science, Technology, and Art (ASTA), the main sponsor of Team Inspiration, actively sponsors the San Diego Mesa College in building a new robotics lab for the students. This will allow the students to learn about unmanned aquatic vehicles. We partnered with Mesa to provide internship opportunities to the students at the college who are interested in joining the team like Huy Lam. We have high hopes that continuing this program will bring more dedicated talents onto the team and provide learning opportunities for students.

II. OUTREACH AS A WAY TO GIVE BACK

Throughout our team's history, we have always seen it as important to demonstrate what our members have learned to our local community, to spread the passion of science, technology, engineering, and mathematics (STEM), as well as flatten the learning curve for those already interested in robotics.

ASTA provided sponsorship to three capstone teams this past summer during the preparation for RobotX. The students in one of the teams were able to develop Computer Vision models for Barco Polo via multiple Docker containers. They successfully trained a model to identify three pairs of buoys of differing colors and chart a path between them to navigate. We are sponsoring a capstone team working on a sensor fusion system for RoboSub 2025.

Team Inspiration conducts week-long summer robotics workshops in partnership with the University of San Diego (USD) STEAM Academy and the UrbanLife Ministries for underrepresented and underprivileged children ranging from second to eighth grade (Fig. 2). In addition, we also reach out to students participating in the San Diego SeaPerch competition, showing them the path beyond SeaPerch - RoboSub and RoboBoat (Fig. 3).

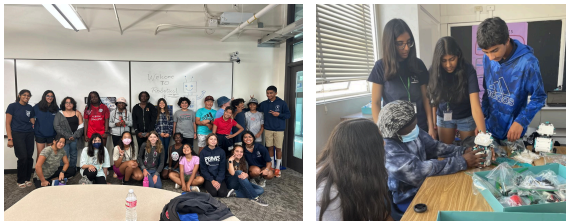


Fig. 2: Team Inspiration outreach with the UrbanLife Ministries (left) and USD STEAM Academy (right).



Fig.3: Team Inspiration members at San Diego SeaPerch competition (top) with our RoboSub and RoboBoat (bottom).

The team members who compete in RoboNation competitions continue to provide guidance to younger members of Team Inspiration competing in the FIRST Tech Challenge (FTC) (Fig. 4).



Fig. 4: Team Inspiration members photographing FTC mentees at competition.

True to the belief that teaching fosters learning, the FTC team in turn provides outreach to Benin, Togo, Ecuador, Eswatini, Haiti, and Paraguay robotics teams.

Team Inspiration is working with students at Eswatini to help them learn about Autonomous Surface Vehicles. We provided 5 ground robotics kits valued \$9,000 by partnering with other organizations. Our plan is to guide them on SeaPerch and then RoboBoat in the future.

For Benin, we have partnered with local organizations led by Femcoder and supported by the US embassy to train their robotics coaches, continuing our support since 2017 (Fig. 5 and Fig. 6).



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 ...Designing the future of Africa through STEM.

The Values that we share

- Empowering local NGOs to to make STEM accessible to girls
- Making STEM education engaging and accessible for all
- Engineering a future where women lead in STEM
- Fostering African innovation through technology

PARTNERS & SPONSORS

Logos for partners and sponsors: Fondation des Nouveaux Initiatives Africaines, USAID, INSPIRATION, and a spider logo.

Fig. 5: Team Inspiration has partnered with the US embassy and local organizations to continue STEM outreach since 2017.



Fig. 6: Team Inspiration training Benin Robotics Coaches via zoom call (1/27/2025).