

FIRST Impact Award - Team 3880

2025 - Team 3880
Team Number
3880
Team Nickname
Tiki Techs
Team Location
Kailua Kona, HI - USA
Describe the impact of the <i>FIRST</i> program on team participants within the last 3 years. Think about percentages of those graduating high school, attending college, in STEM careers, leadership skills, and serving as mentors/sponsors in <i>FIRST</i> programs.
Our community's graduation rate is in the mid-70s, but our program boasts 100%, with 85%+ attending college. Most alums from 2021–24 work in robotics & STEM programs and give back as donors and mentors, teaching remote labs so STEM learning thrives. We've hosted 10 annual STEM camps, engaging hundreds of elementary & middle school students in robotics and hands-on activities, sparking curiosity and building the next generation of innovators.
Describe your community along with its unique opportunities and circumstances. Think about your geographic region, diversity of town/school, language barriers, socioeconomic barriers, and cultural expectations.
The Big Island is diverse and geographically isolated, making resourcefulness essential as materials are costly to ship. Kealakehe High, a Title I school, serves a student body that is over 80% students of color, including 40.4% Pacific Islander, 15.9% Asian, and 15% Hispanic. Isolation challenges us to innovate with what we have, turning obstacles into opportunities. Embracing our diverse perspectives, we work to bridge gaps in education and opportunity, making STEM accessible to all.
Describe the team's methods, with emphasis on the past 3 years, for spreading the <i>FIRST</i> Mission in ways that are effective, scalable, sustainable, and creative.
Over the past three years, our team has spread the FIRST message by embedding its core values into scalable, sustainable, and creative programs like Girls Exploring Math and Science (GEMS), Kona STEM Camp, and Tiki Technicians. These initiatives inspire hands-on learning, foster problem-solving, and encourage STEM careers. We measure success through increased participation, community feedback, and the long-term involvement of alumni as mentors, ensuring lasting impact.
Describe your team's goals and the progress you have made towards them to fulfill <i>FIRST's</i> Vision.
Our team has championed diversity and representation within FIRST, ensuring students from all backgrounds feel empowered in STEM. As members of a Title I school with a predominantly Pacific Islander population, we break barriers by mentoring younger students and proving robotics is for everyone. Through outreach like Girls Exploring Math and Science (GEMS) and our annual bot Showcase, we serve as visible role models, inspiring the next generation.
What impact has your team seen from your efforts described in the above question? How does your team measure impact?

Our team has seen increased enrollment and engagement in our STEM Academy and workshops, particularly from underrepresented students. Through mentorship and outreach like GEMS and our bot Showcase, more students feel empowered to pursue STEM. We measure impact by tracking participation rates, gathering feedback through surveys, and collecting success stories from students, helping us assess how our efforts inspire continued involvement in robotics and STEM careers.

Please provide specific examples of how your team and team members act as role models within the *FIRST* community with emphasis on the past 3 years. How do you share these best practices with other teams?

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Describe your team's initiatives to Assist, Mentor, and/or Start other *FIRST* teams with emphasis on activities within the past 3 years.

Passing 14 years worth of knowledge down from alumni class to alumni class, our team has used this wisdom to mentor local FIRST LEGO League (FLL) teams. We've hosted competitions and partnered with Team 3881, Sharkbots, and others for an annual Bot Showcase to share insights and foster community connections. Through this mentorship, we model Gracious Professionalism and Coopertition, passing on the values of teamwork and inspiring future generations to join the robotics community.

What other initiatives have you created, grown, sustained, or participated in (*FIRST* or otherwise) to help inspire young people to be science and technology leaders and innovators? What outcomes have you seen from your efforts in the past 3 years?

We know the value of digital storytelling. In collaboration with Waverider Media, we create videos that showcase STEM's impact, highlight student achievements, and make robotics more accessible. These videos inspire young learners, document our outreach efforts, and promote FIRST values. Over the past three years, our media initiatives have increased engagement, encouraged new students to explore robotics, and strengthened our presence in the community.

Describe the partnerships and relationships that you've created with other organizations (teams, sponsors, educational institutions, government, philanthropic entities, etc.) and what you have accomplished together, with emphasis on the past 3 years.

We collaborate with the San Diego Zoo on the Palila Project, supporting conservation efforts for the native Hawaiian Palila bird. At California regionals, we connect with mentors and alumni from Zipline, Apple, and NVIDIA. NVIDIA and the France-Hawai'i TMT for insights into cutting-edge technology. With support from local sponsors, we secure funding to expand STEM opportunities and inspire students to pursue careers in science, technology, and engineering, furthering our community's impact.

Describe your team's efforts in the past 3 years to promote equity, diversity, and inclusion within your team, *FIRST*, and your communities.

Our team has worked to promote equity, diversity, and inclusion both within our team and across the FIRST community. As a Title I school, Kealakehe receives federal support to ensure accessibility for all students, making trips and resources affordable for everyone. Our team is gender-balanced and includes students from diverse backgrounds. We prioritize outreach to ensure representation from all cultures within our school and actively encourage participation from underrepresented communities.

Explain how you ensure your team and the initiatives you have created will be sustainable.

We ensure the sustainability of our team by fostering a culture of mentorship, knowledge-sharing, and community engagement. Strong relationships with alumni, local businesses, and partners help build resources and expertise for future generations. Our "kuleana" (responsibility) to our community drives us to maintain initiatives like our Bot Showcase and STEM camps, which inspire the next generation of innovators.	
Highlight one area in which your team needs to improve and describe the steps actively being taken to make those improvements.	
We don't know when to stop. Our passion and drive often lead us to push projects and initiatives to their limits, sometimes at the expense of balance or efficiency. While this commitment to excellence is admirable, we are actively working to establish clearer boundaries and timelines to ensure that we can sustain our efforts without burnout. By improving our time management and prioritization, we aim to continue delivering high-quality work without compromising our well-being.	
Briefly describe other matters of interest to the <i>FIRST</i> Judges, including items that may not fit into the above topics. The judges are interested in learning about aspects of your team that may be unique, particularly noteworthy, or had a large impact.	
The STEM Academy at Kealakehe High School pioneered the academy format, establishing the Creative Arts and Leadership Pathway Academies. This innovation led to the addition of 15 AP classes, expanding opportunities for all students. By integrating robotics with these pathways, we offer a well-rounded education. Our Model UN program further strengthens global awareness and leadership skills, fostering growth and preparing students for future success.	
Judge Feedback	
	Do the judges evaluate the FIRST Impact Award holistically, considering all aspects of our submissions—the deliverables, impact video, executive summaries, and impact essay—as a complete picture of our team's work and impact? An area the team has an opportunity to improve. Something that really impressed the judges.
Essay	

I. Introduction As a pillar of STEM education and opportunity in our community, the Tiki Techs, Team 3880, are committed to igniting passion and driving progress. The Tiki Techs aim to bridge the gap between technology and community, shaping the next generation of STEM leaders at our home base in the Kealakehe High School woodshop—and impacting our community for the better. Each Tuesday and Friday, like clockwork, our Tiki Techs are hard at work. Our tireless team of over 40 students and 5-10 mentors works not just to compete in FRC, but to promote STEM education through active participation. From August to December, each member participates in pre-season training to prepare for the official FRC season, contributing 6 hours each week to the betterment of the Tiki Techs as a whole. During this time, we compete in STEM competitions ranging from business pitches to innovation challenges, promoting teamwork and testing our work ethics. In this pre-season, our Tiki Techs also receive industry-level training and certifications, including CPR/AED training, FESTO Industry 4.0 certifications, and 3M safety training. In addition to these competitions and training, these 5 months prior to the official FRC season also entail preparing our workshop for what's to come. By training new members on our tools, standardizing organizational systems, and creating comprehensive signage and tutorials for each piece of equipment in our shop, we ensure a smooth transition from pre-season prep to in-season work. Since the kickoff on January 4th, our Tiki Techs have been putting in 10 hours each week, continuing their work on competitions started in the pre-season and working in subsystems to build our 2025 FRC bot. Living by our motto, “Kulia I Ka Nu’u” (strive for the summit), the Tiki Techs have historically

expanded STEM education in our community from our robotics team's youth. What started as 2 kids, unchallenged by the schooling available to them—who took matters into their own hands with little funding and borrowed hand tools—has now grown into a community of driven, STEM-loving scholars. With passions that expanded beyond the bounds of Team 3880, the Kealakehe STEM cohort was born and has grown into what it is today: over 100 students with access to industry-level training and equipment, regardless of their background. In the past 3 years, the opportunities provided to these students have continued to multiply, including the integration of flight simulators for aerospace classes, welding simulators for future certifications, and much more.

II. Team Impact and Achievements

In the fall and winter of 2024, the Tiki Techs participated in 15 STEM-oriented competitions to foster teamwork and inspire innovation. The first phase of this competition cycle was business pitch competitions, including NASA's TechRise, ASB's KeikiCo, the US DOE's CTE Momentum, Samsung's Solve for Tomorrow, and the Blue Ocean Entrepreneurship Competition. The next phase focused on building, including Bridge Builder, Science Olympiad, Plant the Moon, Project MFG, and the Space Station Innovation Challenge. The third and final phase focused on invention and innovation competitions, including Future City, ExploraVision, SkillsUSA, the Conrad Challenge, and the Real World Design Challenge. In addition to these competitions, the Kealakehe Tiki Techs applied and were accepted for NASA's 2025 Human Exploration Rover Challenge (HERC) in fall of 2024 and are currently preparing to compete this coming spring. As the Tiki Techs dive headfirst into NASA's HERC—as the only Hawai'i team represented at the national competition this coming April—first-year Tiki Tech Takumi Landi reflects, "This experience has been so much fun, and I'm glad I've been able to partake in all that the Tiki Techs have to offer." The Tiki Tech's submission for CTE Momentum is still under review by judges, but third-year Tiki Tech Maya Vincent feels that "experiencing and overcoming the challenges of design and innovation have invigorated me to do more for my community in a way that impacts long-term." As for competitions with published results, the Tiki Techs have placed highly among many submissions for NASA TechRise, Samsung Solve for Tomorrow (at the state level), and SSIC. Second-year Tiki Tech Sei Smith, who participated in many of these competitions, says that "Tiki Techs robotics has shown me the tools that I have as an individual, and how I can utilize these tools to combat issues I see in the world around me."

III. Community Involvement and Outreach

The Tiki Techs don't just value community; we build it. From education outreach to working with additional organizations, our team puts community at the forefront. The Tiki Techs bring sustainable, student-led STEM education to as many members of our beloved community as we can possibly reach by fostering learning environments that showcase innovation, creativity, and aloha. Cultivating STEM education opportunities, including our annual STEM camp, a 3-day immersive experience for 100 3rd-8th graders to explore the fields of coding, space exploration, physics, and more, our students aim to shape the future of STEM education in our community to produce future leaders in STEM. Many of these future leaders come out of GEMS (Girls Exploring Math and Science), an annual event for local 5th-grade girls, where our team showcases young women in STEM leadership roles while providing STEM education opportunities for girls in our community. Additionally, the Tiki Techs host many STEM-oriented events for students of all ages, including local elementary schools' FLL (FIRST LEGO League) robotics tournaments, the West Hawai'i District Science and Engineering Fair for middle and high school students, and high school MATE ROV competitions. Through our students' and mentors' tireless efforts in providing STEM education in the past and present, the Kealakehe robotics team has cemented itself as a leader in STEM education in our community. Our team can only hope to grow this model in the future, impacting countless other students and the world around us. As for our school community, the Tiki Techs are tirelessly involved in all things Kealakehe, from volunteering at school events to partnering with other on-campus clubs and organizations. This year, our Tiki Tech media team has collaborated with Waverider Media to bring weekly robotics updates to all of Kealakehe High School. Tiki Tech media coordinator Lanz Vitales says, "It feels amazing to connect our typically isolated activities to the rest of our amazing school." Showcasing the diversity of the Tiki Techs, 3 of our students were also involved in the Palila Pilot Project, a partnership between the San Diego Zoo Wildlife Alliance, 'Iolani School, Hawai'i Preparatory Academy, and our very own Kealakehe High School. These groups came together to produce the first full-genome sequence of the critically endangered palila, a culturally significant native Hawaiian honeycreeper that resides on the slopes of Mauna Kea. Yet another event hosted by the Tiki Techs, our regional MATE ROV competition sees students compete to build, code, drive, and pitch a remotely operated underwater vehicle that can complete tasks related to ocean conservation and data collection. A prime example of the Tiki Techs' impact on Kealakehe is newly incorporated school-wide curriculum showcases. In the past, these events were called exhibitions, where STEM Academy and Tiki Tech students could present their passions to family

and friends. These exhibitions have expanded into an annual event to showcase every elective offered at Kealakehe, including performances from Polynesian dance, live broadcasting from Waverider Media, catering by culinary classes, and more. The Tiki Techs' commitment to community-driven STEM education and our collaborative spirit has created a lasting impact on Kealakehe, and we look forward to continuing this legacy of excellence, innovation, and aloha.

IV. Innovation and Sustainability

The Kealakehe Tiki Techs have developed innovative strategies and initiatives to ensure sustainability and continuity in our program. Through our student-led and mentor-supported model, we foster a collaborative environment where students take ownership of their learning. Our initiatives include student-led tool training and mentorship programs, which enable students to share their knowledge and expertise with one another. Additionally, our off-season competitions promote teamwork and innovation, while our ROV and curriculum showcase events encourage students to share their knowledge and receive feedback. Furthermore, our experienced Tiki Tech subsystem leads teach others, developing their leadership skills and confidence while helping newer Tiki Techs develop their skills. Our shared resources and collaboration between team members prioritize communication, and our progress checks ensure that our team works efficiently and effectively. These initiatives have enabled us to build a strong, sustainable program that benefits not only Team 3880 but our community as a whole.

V. Conclusion

The Kealakehe Tiki Techs have established a lasting impact on our community through our commitment to STEM education, innovation, and sustainability. We empower students to become leaders, critical thinkers, and problem-solvers through our culture of collaboration, inclusivity, and fun. Our team's dedication to the FIRST mission and values is evident in all aspects of our program, from our community outreach initiatives to our competitive achievements. As we strive to continue our legacy of excellence, we remain committed to our motto, "Kulia I Ka Nu'u" (strive for the summit), and to making a positive impact on our community. We look forward to continuing this journey and to seeing the incredible things that our Tiki Techs will achieve. Mahalo me ke a hui hou!;

