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The mission of Team 5740 is to build students of creativity, leadership, and professionalism. As a senior on the team, I am extremely proud to see how we carry forth our vision to see our communities served by our team members, equipped with gracious mindsets and professional skill sets. As we enter our 9th season as a team, we reflect on our legacy while continuing to have a positive impact on our local area and spread the mission of FIRST. Our team currently consists of 33 students and 10 mentors. Students are tasked with leading subteams and coordinating with mentors to help with all elements of the team. We believe that participation on Team 5740 leads our members to be better equipped to pursue their career goals and make a difference in the world through our "service through STEM" outreach initiatives.

One of my favorite outreach events has been helping local girl scout troops earn their robotics badge. The activity started with a demonstration of our robot and transitioned to a fun robot craft and a coding activity utilizing a Lego Boost. They loved interacting with the "drag and drop" code blocks and seeing what their edits made. The loop block was one of their favorites! They loved repeating their code as many times as they wanted to. I recall one Girl Scout saying at the beginning of the meeting that she had no interest in robotics. However, when the group was asked if they had fun and wanted to return, the same girl remarked that she had so much fun and wanted to learn more about robotics. This helped me realize the potential that our outreach initiatives can have.

Team 5740 engages with our community by connecting with local businesses and by promoting STEM participation through multiple regional events. We were invited to participate in the Mars New Year event by FTC Team 13474. At the multi day event, we were able to demonstrate our robot and answer questions from curious onlookers. The Cranberry Maker Faire was another amazing opportunity for us to interact with other STEM organizations and showcase the FIRST ecosystem to attendees. To manage our team successfully, we reach out to local companies to seek sponsorships and build lasting partnerships with them. Our Title Sponsor, Penna Flame Industries, joined forces with us after my cold call for support landed with a North Catholic alumnus! Our team was also given the opportunity to take a tour of their facility and learn about the flame hardening process. We are very grateful to have made our partnership with Penna Flame, as well as all of our 2023 sponsors.

Justin

As a sophomore, my short time on 5740 has given me insight on what robotics is really about. I was skeptical of robotics at first. Not having any background in engineering, I got involved on Team 5740 to aid in our Impact and outreach efforts. My doubts quickly subsided when I began to get more involved with the team. Our outreach efforts have opened a new perspective on robotics for me. One of my favorite outreach events is Seniors FIRST, which provides a way for those in assisted living facilities to experience the innovations of modern technology through our program. The seniors are always fascinated with what our team is

doing. In addition to displaying our robot's capabilities, we also hold informational talks about how to stay safe online through internet privacy and how to use smart devices to communicate with loved ones. The best part of Seniors FIRST is talking with residents afterward, bonding over a shared interest in understanding technology. Working with this marginalized group is a truly rewarding experience, and I'm looking forward to growing and expanding this program. Our future plans are to visit more facilities and distribute videos all around the east coast to serve this underrepresented population.

The Pittsburgh Robotics Network Discovery Day was another formative experience for me. The all day event was held to make Pittsburgh the robotics capital of the world. Team 5740 was one of over 50 exhibitors including tech companies and universities divided into the Business Zone, Education Zone, and Community Zone. Our team demonstrated our 2022 traversal climb and held an informational booth regarding FIRST and our team. While managing the booth was fun, and meeting all the other people there was great, the high point was networking with the other exhibitors. Negotiating potential mentorships or sponsorship opportunities with the business representatives was a great way to learn about many STEM businesses in the Pittsburgh area. Several of the student interactions led to follow-up correspondence and budding partnerships with our team. The communication and negotiation skills gained were both valuable and rewarding, as I continue to use them in future outreach events.

Lu

As a freshman, I have endeavored to involve myself in many of our outreach efforts, one being the toy adaptation initiative. In toy adaptation, other members and I modified toys for medically fragile kids by soldering more accessible buttons. We have given 28 toys to the Children's Home of Pittsburgh, who has been extremely grateful for our donations over the years. This experience taught me more than just the technical skills like soldering; it taught me empathy and the importance of helping kids in need. Seeing the smiles on the kids' faces as we dropped off the toys just in time for Christmas was as impactful on me as it was on them.

Before joining Team 5740, I decided to take the FIRST Class Robotics course as an introduction to robotics. The course is a co-curricular elective that aligns with the FTC competition season. This allows students to participate in the challenge during the school day without having to commit to an afterschool activity. My experience in FTC has allowed me to flourish in FRC. FTC was a smaller team, only about 12 people, and it was an assortment of different grade levels. Since its creation in 2016, over 75 students have gone through the FTC program at school, with many going on to join Team 5740. FTC teaches important collaboration skills with assistance from several members of Team 5740 serving as mentors for the course. The course is one of 9 STEM electives that has been added to the curriculum following advocacy efforts from our team. The skills of building a robot in FTC transitioned seamlessly to FRC, as it uses similar methods on a larger scale. North Catholic also hosted the Southwestern Pennsylvania Qualifier, with several members of the team supporting in the set up, take down,

and volunteering for critical event positions. Our team also hosted FLL competitions at our school, such as the Terrific Trojanator FLL Scrimmage in 2021. We support FTC and FLL in order to spread the message of FIRST at all school levels. I have enjoyed my first year on Team 5740 and can't wait for more opportunities ahead.

## Milan

Being a junior, I work vigorously to connect 5740 with the community, both with youth and professionals. I helped run our three summer camps, teaching middle school kids basic code, CAD, and build skills in a competition-like format. Throughout the week, they designed and built attachments for Romi robots and saw all of their hard work pay off during the competition at the end of the camp. The first two camps ran in conjunction with our school's summer enrichment program, and the third camp was our More Than a Robot Camp. We were able to introduce kids to FIRST and teach them how to build an attachment for an FRC kit-of-parts chassis. This camp gave kids the chance to go in depth with technical and nontechnical skills, such as an activity to make a team video in groups. Several students, who had attended the first camp, recognized that they wanted to learn more about robotics and enjoyed the additional opportunity. I loved helping at this camp because it reminded me of when I went through these camps. In fact, many students who attend our summer camps go on to join the team once they enroll at the school as a freshman. Over 100 students attended our camps this year and have helped to increase participation in FIRST within our area, while introducing many kids to FIRST for the first time.

I also enjoy connecting with businesses and professionals as a member of 5740. At the Three Rivers Educational Technology Conference, I joined 3 peers to give a presentation about the importance of FIRST within schools. We advocated for educational professionals to expose students to programs that promote community connections, real-world problem solving, and building professional networks via programs like FIRST. This advocacy for STEM in schools motivates me to return again next year.

During the year, our team was invited to tour local businesses and sponsors like Total Equipment Company and Neya Robotics. These visits gave our team a unique opportunity to see how the professional landscape functions. We often open up these visits to other students in the school, as we are always looking to inspire an increase in STEM participation at North Catholic. 5740 has also invited guest speakers from universities such as the Pittsburgh Technical College and Kettering University to speak about post-secondary STEM opportunities. We have also connected with Slippery Rock University to create a partnership with their engineering program. Our goal is to place research assistants with their faculty this Spring. Reaching out to business and education partners helps develop my skill set on the team as I learn more about the real world applications of what we do and strive to emulate it during 5740's operations. Overall, connecting with businesses and working with the next generation to promote STEM defines the mission of FIRST to me. I look forward to continuing the mission of

Team 5740 and to make a difference with “service through STEM”, pursuing a future driven by FIRST.