

The L&N STEMpunks are a team of close-knit friends, students, engineers, artists, and programmers. Our team's strength lies in our camaraderie within our team and our desire to share that sense of unity with others. Our team's relationships within the community, within our school, and with other FRC teams are our team's strongest aspects, and we aim to pass these qualities on to the rest of the world.

Every member of our team has a purpose. Whether they are in the Engineering, Branding, or Business department, everyone is given a chance to do something they are passionate about. Although many of our team members joined the team to be engineers, programmers, or other robot-related jobs, many have taken up interest in fields like digital design, video production, and social media. One of our rookies is in charge of social media while another focuses on designing our team's costumes. Both of these roles are vital to our team's visibility; thousands of people see us online and in our costumes, and we are showing that we trust our members strengths by placing them in charge of these key roles.

Any team member could tell you that they have gained skills they could utilize in every aspect of their life. All members of our team practice communications skills, business skills, collaboration skills, leadership skills, and more. By building this experience in our members, we hope that they have the flexibility later in life to succeed at whatever career choice they make. We pass on these essential skills to team members so that they can share their understanding of STEM education to the East Tennessee community.

The L&N STEMpunks make it our mission to advance and advocate for STEM education in fun, creative, and entertaining ways throughout our local area. We share the amazement of science and technology to all East Tennesseans who would otherwise not have been exposed to these fields on a daily basis.

In 2011 and 2012, our sole outreach events were the annual Veteran's Day Parade. In 2011, we took a small robot built from an RC car that only saluted and blinked. In 2012 and since, our team has taken our robot from that year's FRC season and used it in the parade. In 2013, we took it upon ourselves to begin a project to restore the iconic L&N Sign hanging outside of our school (also featured in our logo). Through this project, our team had articles written about them in Metro Pulse and the Knoxville News Sentinel, which were the two largest newspapers in Knoxville. That year our team also began to work with Vine Middle Magnet School by bringing out a FIRST display and our robot to inspire children there. As a result of that initial visit, our team has continued to visit Vine each year since and currently mentor a Destination Imagination team at the school. Our team also spoke to 8th graders at the Knox County Schools Career Fair about our school and STEM education in particular.

In 2014 we put a heavy emphasis on our mission by participating at three times the events we had participated at in those previous years.

We began in June by connecting with the local business like Paulk and Co., a Knoxville-based metal and stone fabrication company, to begin participating in their annual Steampunk Carnivale. The Steampunk Carnivale was an event that brought artists and makers around the community together to talk about steampunk design. This summer our team worked with local day-care Shades of Development and have built a relationship with them that will last to the next summer. While working with Shades of Development, our team appeared at their multiple summer-care locations over the course of a month to work on

Lego-based activities and show our robot. Our team has also built a relationship with local radio station 98.7 NewsTalk's The Phil Show. We have made appearances on air with Phil Williams multiple times to talk about STEM and FIRST and we plan to return in the future. In the fall of 2014 we did something radical; we put our Aerial Assist robot on ice in front of a bunch of hockey fans at a Knoxville Ice Bears match (Picture 2). Our robot threw shirts into the stands during the intermissions, launched Aerial Assist balls sliding across the ice, and the crowd loved it.

It is events like the Knoxville Ice Bears hockey game that really show what is special about FIRST. The event was amazing not only because we showed off robotics to thousands of East Tennesseans, but also because we grew as a team. Events like these make us excited for robotics as we sit in the stands watching our robot enthrall hundreds in the stands. US FIRST even caught wind of what we were doing and shared it on their Facebook and Twitter pages, reaching an audience of thousands around the world and exciting FRC teams for the upcoming season.

Every team member loves to be involved with our outreach events. Every member wants to be involved in visiting day cares, after-school cares, and school clubs to directly connect with young elementary/middle school children and share with them our experiences in science and technology.

Every team struggles time to time, but our team turns our struggles into learning opportunities.

David, a sophomore on our team, is collaborative, enthusiastic, and constantly looks for ways to grow as a person. David is unique. Despite his Aspergers syndrome, he is respected and embraced as any other member of the team would be. When he first joined the team, David was enthusiastic about being involved, but he took to starting projects on his own without first conferring with teammates. At times, he performed tasks reserved for specific departments, such as calling sponsors, which inevitably caused conflict with other team members. At other times, David's tenacity and unbridled enthusiasm was advantageous, such as when he organized our appearance on the ice at a Knoxville Ice Bears game (Picture 3). David is a quick learner, and now consistently communicates and collaborates with members of the team before taking on his own initiatives.

Through his experiences with our robotics team, David has grown from having difficulties collaborating with others to truly realizing what it means to be a part of a team. David is unafraid to approach others in asking for help to support the team or even just to talk to anyone about the FIRST program. His passion is an example for every team member to follow and we all strive to match his excitement. David puts his stubborn determination to work to improve the team, improve himself, promote the mission of FIRST, and embody the qualities that FIRST hopes to instill in all students. David's passion is what it means to be a STEMpunk.

Qualities like those found in David are ones we want not only our team to share, but every FIRST team to share. In addition to our expanding outreach program, we have focused on working closer with teams from all around the region.

The Knoxville area has seen large growth this year in the FRC program, with three new teams registered. Our team has focused this year on helping these rookies in their first

season by offering assistance and mentoring them. Our team has reached out on multiple occasions to help rookie team 5508 through loaning tools and advising on business strategies. Our programming mentor, Tim Klein, visited team 5744 at Austin-East Magnet High School and helped a new, aspiring group of programmers with troubleshooting their code in the last week of the build season.

Team 5571 at Bearden High School was created after a member of our team encouraged students at Bearden to form their own FRC team. Their team has developed a similarly strong social media presence and cited our team as an inspiration when building their program. One of their co-captains attended our Smoky Mountain Regional Business Summit and has told us that it helped her in founding the team.

In Spring of 2014, our team held the Smoky Mountain Regional Business Summit (SMRBS), the first FRC team event with a sole focus on business (Picture 4). With the help of TNFIRST, local business leaders, and our mentors, we organized this one day event that focused on the most commonly overlooked aspect of FRC: business. Topics included developing a strong business plan, engaging the community, design and branding, budgeting, social media, and more.

Every team in attendance at the SMRBS gave positive feedback. One attendee stated that it was “the first time she felt valued in FRC,” due to how business teams are usually overlooked as a whole and are typically used as throwaway roles for girls on the team. Our business summit helped recognize others in similar situations and helped bring visibility to these roles so that they are taken more seriously. As planned, the Business Summit is becoming a regional effort, so we are working closely with FRC team 4265, the Secret City Wildbots, to plan the next Business Summit for this Spring of 2015.

With events like the Business Summit and outreach activities like the Knoxville Ice Bears games, our team is reaching farther than ever. From at-risk inner-city elementary students to high profile sponsors, our team interfaces with a wide audience that may have otherwise never heard about FIRST or STEM or have even seen a robot in person. When we attend these events we are not looking for new sponsors or to fill another outreach checkbox; our team truly loves working with others to share what we know and pass it on to the next generation.

In conclusion, our team’s newly galvanized approach to outreach, our support of other regional FRC teams, and our enthusiasm assures that our team will last beyond this year’s graduating class. Our team’s continual invigoration of new members to spread the message of FIRST through STEM education ensures that the L&N STEMpunks will be inspiring the East Tennessee community for years to come. All in all, we aim to leave a lasting impact on everyone in East Tennessee; from students and teachers to business leaders and other FRC teams.