



LEARNING TO BE LEADERS

Branksome Hall Robotics Team

LIVING UP TO A LEGACY

*The predecessors of
STEM*

Tackling the realm of STEM is an undeniably daunting task when considering the rapid pace at which innovation accelerates. The legacy left behind by innovators such as the Wright Brothers or Sir Isaac Newton has shaped our understanding of the known world. On first evaluation the severe lack of female innovation only contributes to the unbreachable nature of STEM oriented fields. Historically, “girl” has been a restrictive term, connotated with an innate lacking and an inability to succeed. The Branksome Hall Robotics Team however, knows this is not the case. We have subverted this archaic degrading meaning to become our empowerment, through the formation of our own supportive community: founded on a basis resilience. By creating opportunities for ourselves we can undoubtedly shape and transform our own reality. Now, STEM seems a lot less daunting since we can confidently hold the knowledge that we, as women, have the capability and tools to generate progress at our fingertips.

As one of the few teams comprised of all girls, we face our own unique challenges in addition to the mechanical challenges of building a robot, and overcoming these challenges requires the utilization of solution oriented thinking. Our team understands that these solutions can never reach their full potential without diverse perspectives and ideas. This specifically impacts the field of Robotics because of the lack of women participating in STEM. We believe the disparity between men and women in STEM arises from preconceived ideas girls have about the field. Without positive role models girls being to internalize incorrect messaging such as: that they are not being smart enough to become scientists, or that all technology has already been designed, or that engineering does not align with a passion for the arts and humanities. We aim to change this. Specifically, club head Maddie Mackie, has dedicated her time mentoring the middle school robotics team to continue fostering a shared love of robotics. Her innate passion for STEM has translated and resonated with the middle school team and we are all excited to see the diverse innovations they will bring should they choose to join the senior school team in the years to come.

WHO IS THE SENIOR SCHOOL ROBOTICS TEAM EXACTLY?

We are leaders, the future of engineering, designers, the pioneers of new innovation, and we are also and by far most importantly: learners. As learners we understand failure is integral and the negative connotations associated with the notion of failure are arbitrary. The Branksome Hall Senior VEX Robotics Team was first established last year and we began our journey as learners immediately. We started small, first cataloging and understanding the basic parts of a robot. After, we rigorously worked to achieve our goal of competing in our first ever competition in February. We often supplemented our designated time in our schools STEAM lab with additional time Wednesday mornings before class and worked on code in our spare time. For lack of better words we experienced many ups and downs throughout our first year. Though at times it was a difficult challenge to manage especially when we had to think on our feet during mechanical complications at the competition it ultimately benefited us. Additionally, an unexpected benefit that also came our way was how we grew closer as a team. This year we continue to learn and implement our learning from last year as our project has grown far more ambitious; we take each failure in stride and celebrate each success.



MEET THE TEAM

Both new and returning faces with a variety of skill sets have joined the team this year. Through a high caliber of commitment we are all able to learn from each other. No one has a specific role they must fulfil but rather we all contribute to each aspect of the design process so we can later approach challenges in a well rounded, multi skilled, and versatile manner.



Jasmine Chen



Lily Dong



Lauren Grierson



Sophie Ho



Siena Ianni – Palarchio



Elaine Lee



Tara Lee



Maddie Mackie



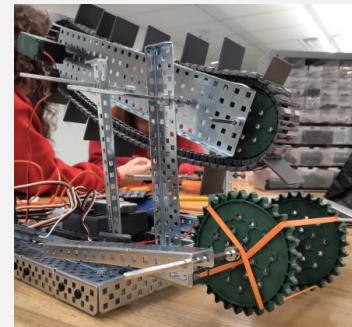
Georgia McLellan



Laeticia Niu

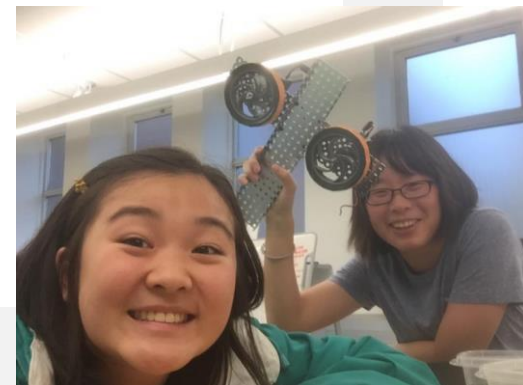


Paige Wanzel



Our Robot (affectionately named Scoopy)

We each take initiative to create success through uplifting motivation, thoughtful encouragement, and successful collaboration. These leadership qualities are exemplified through active listening during diligent working sessions and the discovery of new possibilities through persistence in an empowering space. Undeniably, our team thrives because of our diversity: grade levels, international backgrounds, pre existing skill sets etc. Though our school Branksome Hall is located in Toronto, Ontario we are able to leverage the diverse perspectives from the girls on the team who live in residence from other countries. Our creativity is heightened as we evaluate ideas with an open mindset while considering multiple perspectives. Additionally, being an all girls team also provides us with a unique perspective. Media often presents girls as being catty and spiteful. Suffice to say our team does not suffer from duplicity and rather than conforming to these blatant stereotypes we all genuinely support one another and grow through team success. Working with such a diverse group of women has been a meaningful and rewarding experience for us all. This has truly elevated our team chemistry and thus our ability to succeed.



OUR [HEX] KEY TO SUCESS

As a team, we understand how critical collaboration is to insight tangible success. Twice a week the Branksome Hall Robotics team meets in our STEAM lab to continue iterating our design to our satisfaction. For example, when a portion of the design did not function to the full extent we initially anticipated we regrouped, disassembled the robot, and discussed next steps to improve the design. This constant communication allows everyone to contribute their ideas to improve the design. We also continuously improve our design by drawing upon a range of interdisciplinary skills. Most notably, we used our prior knowledge of mathematics when developing a gear ratio to maximize the speed of our spinner as well as prior knowledge of projectile motion in physics when considering the angle of the spinner. Each individual contribution is valuable because it significantly improves our designs and allows us to think critically during the design process. We ensure we remain persistently open minded and implement strategies when tackling new challenges that arise. Learning to code was a particular challenge many team members were eager to take on and learn. This not only allowed team members to learn a new language of code but also develop their skills of deductive and inductive reasoning in addition to solution oriented thinking which can further be applied in a wide variety of scenarios.

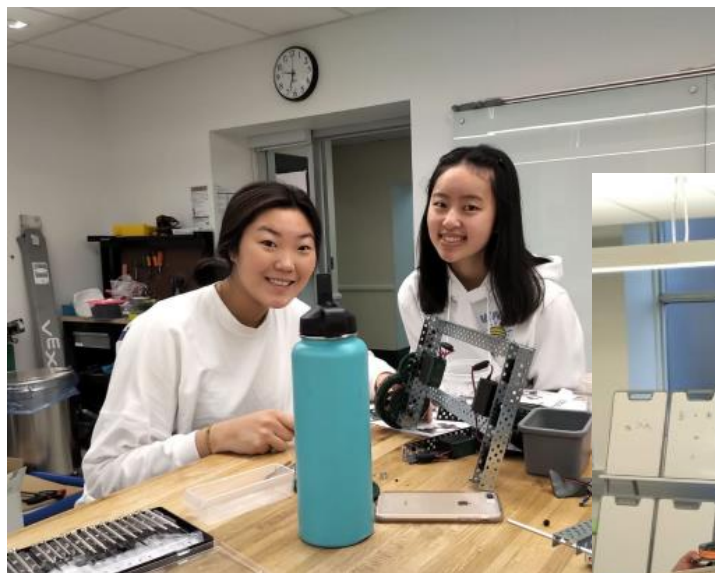


APPLYING THE PRINCIPALS OF GIRL POWERED

The Future and Beyond

In the male dominated field of STEM, often we overlook the women who have made an impact. In particular our teacher Ms. Ashley Boll has been a key mentor for our team. Prior to becoming a teacher at our school, Branksome Hall, she mentored a VEX IQ team. As a new team we have leveraged her prior experience sincere and engaging perspective has made the largest impact on us. As a student driven team, we are still the leaders of the project as she maintains a position that allows us to be accountable for our decisions and learn to be resilient when we make mistakes. We often concern ourselves with the people who have a list of credentials and are well known figures as valid role models. The impact they leave on you however, is so much more important than that. It is undeniable that Ms. Ashley Boll has truly inspired us and exposure to such a positive mentor has also made each of us realize it is just as important to model the principals of being girl powered by ourselves for ourselves. We hope to always endorse the important principles of Girl Powered through an attitude of innovation. We are confident that the realm of STEM will soon bear a striking resemblance to our own team as the field diversifies through introductions to inclusivity. Innovation may be accelerating at a rapid pace but we are eager to move just as quickly to the future and beyond with the changes.

WE ARE THE LEADERS OF TOMORROW.



Written by: Siena Ianni – Palarchio

