# When an unstoppable force meets an immovable object



Isabella Li



Lilian Xin

Team: 9390G

Cautiontape Robotics Club

Mar<mark>kh</mark>am, Ontario, Canada

### Girl Powered.

# Creating a miracle

What happens when an unstoppable force meets an immovable object? Our answer is: the unstoppable force will break the immovable object. Then what happens when a girl falls in love with STEM? STEM will welcome a new power.





In history, there was always a bias towards girls in STEM, with the stereotype that boys would do better in this area. To this day, some people still think that the field of STEM is dominated by boys. But today, team 9390G, two STEM-liking girls, will break through this immovable object. We will follow our hearts and put our effort into robotics to prove that girls and boys are all worth the same value in STEM.

## Girl Powered.

#### Who are we?

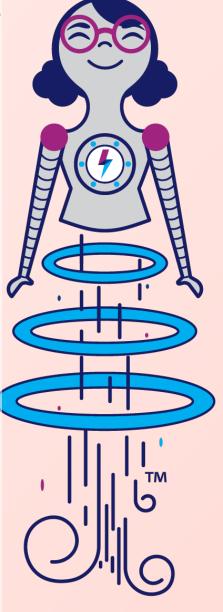
We are team 9390G, the only all-girl team in Caution Tape Robotics Club. We are smart and imaginative. Even though this is our first season, and we only have two members (Lilian Xin and Isabella Li), we still hope to challenge ourselves and make a miracle.





When we hear the phrase "girl powered", we think of the women who succeed in STEM like Marie Curie, Chien-shiung Wu, Grace Hopper, etc. They overcame challenges that are thought to be impossible and achieved great success in science, which provided confidence for us in STEM to improve ourselves and achieve respect.

Our team was just created less than two months ago, and we are already building our second generation of robots. Even though we're weak right now, we are always improving. But in our 2nd tournament, we heard the team we're paired with complain that they're paired with the worst team. This made us kind of sad, but we did not lose hope. Instead, we tried our best in the game, and got a score that surprised everyone. We proved that girls and boys are equally good in STEM.





GIRL POWERED





Our team have inclusive environment that will attract a diverse group of students:

- Being smart and passionate, we make fast progress and all of the people in our club like us.
- We're careful, patient and inclusive. Girls have a different style of leadership than boys which always makes sure everything goes smoothly and team members feel comfortable in their place.

- we're open to every idea and love to brainstorm together.
  We like to have different roles and try different ideas.
- We are new team.
   Our team is like a
   patch of ground
   waiting to be planted,
   full of potential. This
   will attract people
   who like to accept
   challenges.



Our inclusive environment



# Every person has value!

In our team, we try each role and discover what we're like to and what we're good at.



Isabella is creative and good at designing and building. Lilian is careful and is good at driving. We build the robot and make engineering notes together. We never stay in the same role though. We often exchange roles, allowing everyone to try new tasks.

In the future, as we welcome new members, we will incorporate everyone's talents, and make sure that every person has value.





#### Girl & Powered.

# "Let's try..."

"Let's try that" is the most used phrase in our team.

Faced with all kinds of problems in the robotics project, diversity of perspectives helped us a lot.

Our team members often brainstorms together and try each other's ideas. Our ideas vary from "Hey, let's use gears instead of chains because it doesn't really skip" to "let's connect several chains to sprockets on 75 motors" (just exaggerating, there are only six holes on a brain for motors)!".

The crazy ideas gives us lots of inspiration. Of course, they may contradict, but a "let's try that" solves it all.

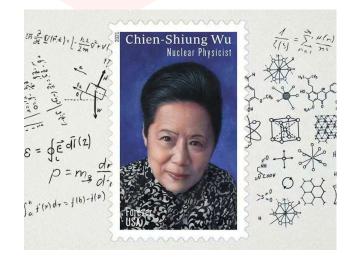


# Our inspiration

Chien-Shiung Wu is our inspiration to study STEM. She is a Chinese scientist and called "First lady of physics".

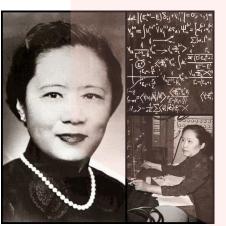
When she was young, people at the time thought that girls weren't supposed to study. Thanks for her dad's support, Wu was able to study science. Through her hard work, she went to China's best university and was the only female physics major in her school.





Compared to the fame, she was more concerned about encouraging and supporting girls like us to study STEM. She won many physics prizes and in February, 2021, the U.S made a stamp that has her face on it to remember her for her contribution to physics.

Later, she went to UC Berkeley and Princeton university to study and research physics. She was the only female scientist to be recruited by the US government to work on the Manhattan project. She designed the "Wu Experiment" which disproved the law of conservation of parity. Even though the project was designed and named after her,



she did not receive the Nobel prize since she was a woman.

# Inspiring the next generations

Many women had succeeded in STEM before and made small dents in that barrier, and inspired us to do so too.

Maybe someday, a bunch of "girl-powered" girls will demolish that barrier and again, showing their whole big STEM dream.



