girl ⚡ powered.
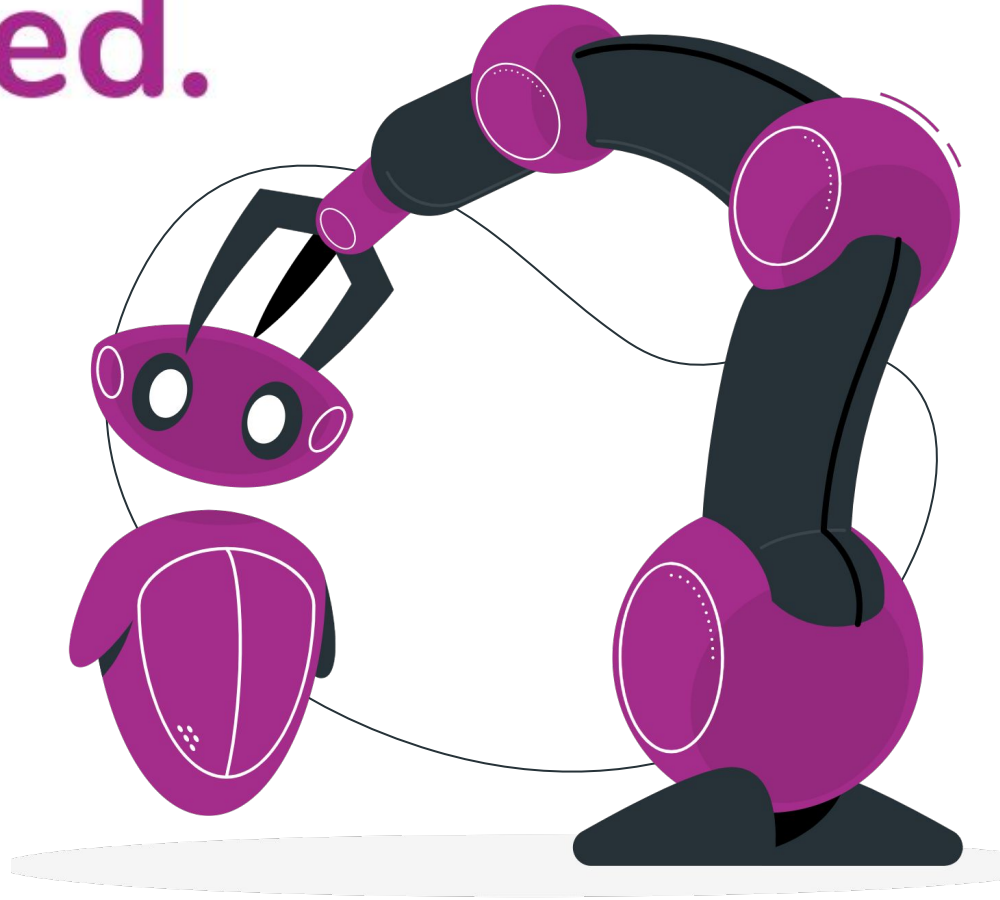
Time to
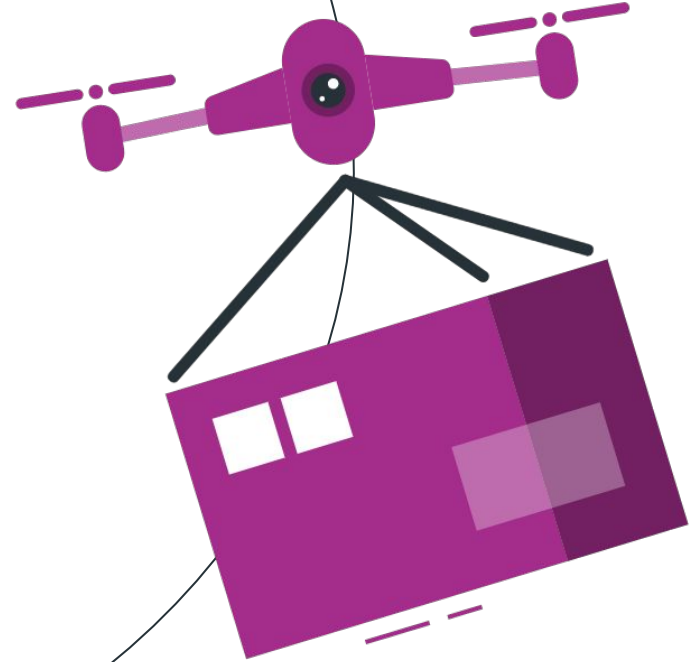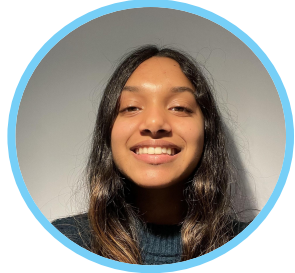## Change Up

TEAM 2360A

Our Team

About Us

We are a freshman robotics team from Neuqua Valley High School in Naperville, Illinois.

NAPERVILLE

Our Empowered Team

Hello! I'm **Maya Raman**. I'm in 9th grade, and this is my **4th year** in robotics! I love the **engineering** and **math** parts of STEM, as well as doing **hands-on things**. Because of this, I was always a **builder** on the team.

Hey! I'm **Nidhi**. This is my **3rd year** in robotics. In my past years I've been the **programmer** and taught the 6th graders how to code. This year, I'm **programming, designing** and **advocating** for my team!

Hi! My name is **Arva Desai**. I am a highschool freshman and I have been doing robotics for **3 years.** I was a **journalist/designer** and a **builder** for all of my years.
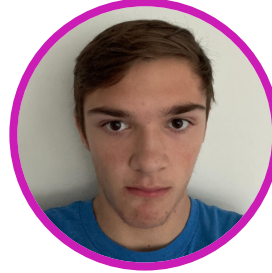
Hello! I'm **Robert Glenn**, currently in my **5th year** of robotics. In the first 2 years, I focused on **driving** and building, and in my most recent 2 years I focused more on **building** and **leadership**. This year I'm mainly focusing on **building.**
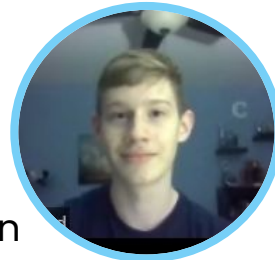
Welcome! I am **Carter**. Just like the rest of my team, I am a **freshman** and have been pursuing my love for robotics since elementary school. This year, I am my team's **driver.**

Our Team Rocks and Roles

While we are a **close-knit** team, we have been meeting completely **online.** We have created with roles for us to perform once we come in person (these are our traditional roles). But now, since the pandemic, we have **adapted** and created roles that is suitable for our online setting. We have experienced **STEM**, and have a good **understanding** of the field and what it takes to succeed in it.

| Team Member	Online/Present Role	In-Person/Past Role
Arva	Idea Coordinator	Journalist/Programmer
Nidhi	Team Ambassador	Main Programmer
Maya	Creative Director	Backup Driver
Carter	Research Analyst	Primary driver
Robert	Logistic Management	Builder

Team Chemistry

Everyone in our team has a **different perspective** on how to build, code, design, etc. We all have our own approach on robotics with our different **backgrounds**. We each create multiple **ideas** and **solutions** on how to problem solve and work together to produce a successful robot. Our robotics team has **experience** in robotics as well as other parts of the **STEM** community. This increases our ability to **succeed,** as well as increasing our overall knowledge in the other stem fields.

Our empowered team

Our team has a majority girls (60%), which is pretty **unique** considering the amount of women in the STEM field. We always look at ourselves as not different genders but as a **united** team driven towards the goal of success. We believe that **girl power** is a big **benefit** to our **productivity** as a team. We are able to bring different perspectives and ideas to the plate.
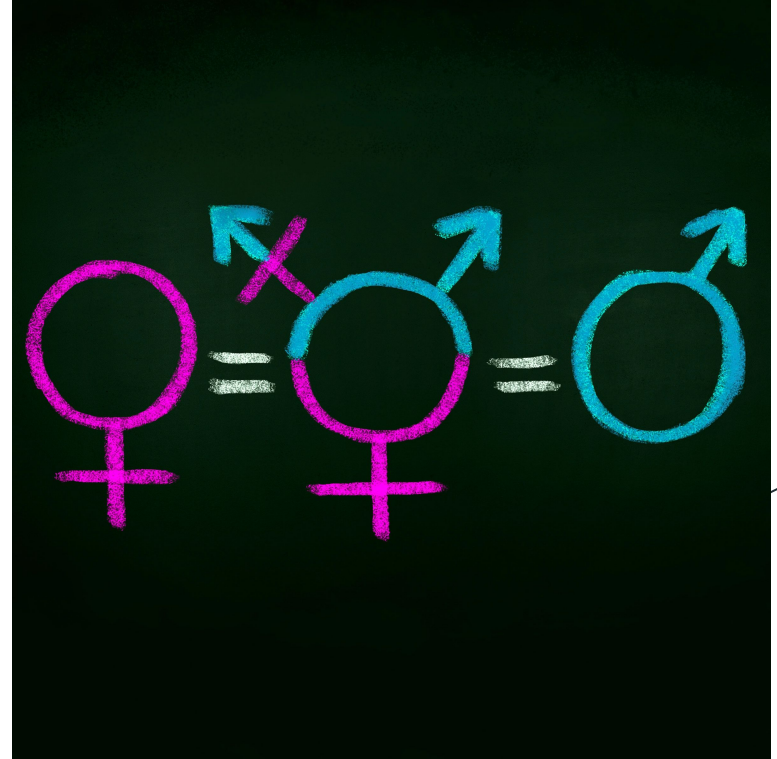
Our Mission

We want **inclusivity** and **empowerment** for **everyone**, especially young people who deserve better for their education
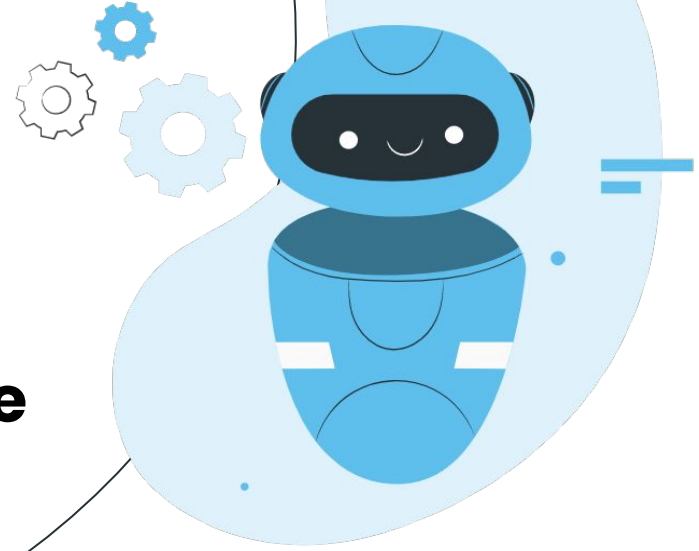
Girl Powered

When we hear the word "Girl Powered", we believe it means **equality** for all genders. It's not about making girls dominate, it's about making girls feel **appreciated** and welcome. We hold the Girl Powered initiative in our hearts and hope to make everyone feel included. Our robotics team is **growing** every year with more and more females, and we hope that we can continue to open the doors to incoming people and **encourage** everyone to join.
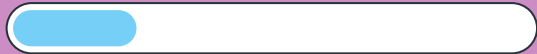
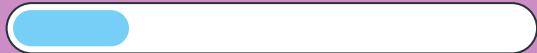# Women Representation in Different Jobs

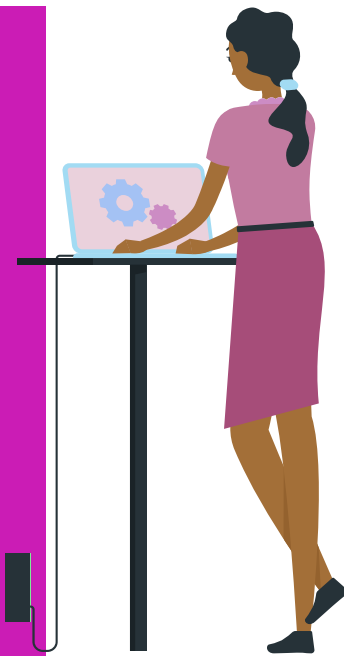**38%** All STEM subjects

37% Science

22% Engineering
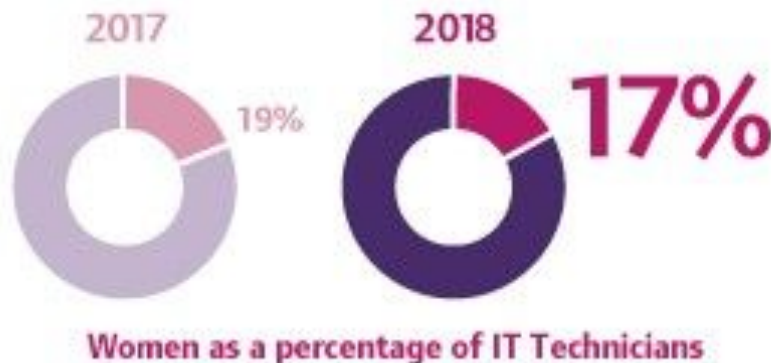
28% Mathematics and Computer

22%

of C-suite **executives are women**

Women make up 48% of entry-level employees, but their share dips to 38% at the manager level and continues to decrease the higher up you look.

Women in IT Technician Occupations

2017

2018

46,523

46,940

2017

2018

19%

17%

Women as a percentage of IT Technicians
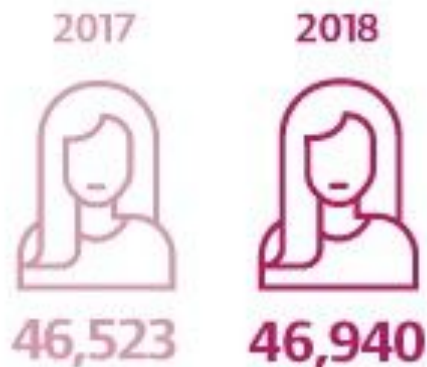
Working as a woman should not be something that is discouraged! The number of women in a higher ranking job for management is going down as well as other parts of the other fields!
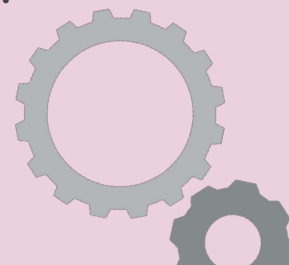
Why this matters:

We believe that STEM has no genders, and should be available to all to live a **fulfilling** life. Learning about the STEM field should be **accessible** to all. By teaching the **future** generation about STEM, we hope to enrich their young, impressionable minds and possibly convince them to pursue **careers** in the STEM fields later in their lives. This, along with other efforts, will eventually lead to a decrease in the gender gap, and allowing increased **success** and a **diversity** of ideas.

We Contribute to the STEM field!

We have taken the **initiative** to create a more **inclusive** environment that attracts a more **diverse** group of people! We are hosting multiple **virtual STEM events** where elementary school students will learn the basics of STEM, and how it is used. This will **inspire** students of **all** genders to get interested in STEM and get involved in the future. This early interest in STEM is what helps more people to get **involved** and grow up to be a part of a STEM field. By inspiring them, we will **increase** the diversity in the STEM fields. This will be tailored towards younger kids so that it will hopefully **interest** them of pursuit of these fields in the future. We know that the pandemic is difficult, so we are hoping to bring these events to inspire these creative and curious minds.

Our Plan!

- Plan: to do an event to **inspire** elementary school students to find interest and possibly pursue a career in STEM in the **future**
- Contacted a principal
  - Keen on the idea
- We plan to contact at least **5 more** schools
  - Two 1.5-hour sessions per school
- The event will January/February

We have already been **approved** by a school, and we hope to be able to hold the event in early January.

STEM Event!

Science

Demonstration (10 min) - I will do a brief explanation on the aspect of science. I will show the multiple fields of science with a picture symbolizing each in a slideshow and kids can do a poll on which one seems the most interesting.

Activity (5 min) - The kids will play a gizmos for 5 minutes. Gizmos is an interactive learning tool that provides online labs for free. The participants will play the heredity gizmos. This will teach them how traits passed from parent to child, and how some traits are more common than others. If the children want to do something on their own time, I will provide them with this link for pigeonetics.

Technology

Demonstration (10 mins) : In order to demonstrate the power and complexity of modern technology, I will use google earth to show the participants certain places, like some of their own houses, cities, famous landmarks, and other interesting things that can be found on the program. I was also give an brief explanation on how the program uses satellite imaging.

Activity (5 mins): Participants will receive a list of things the must find and coordinates that will put them near the thing they must find. Linked below is a list of cool things on Google Earth that can be used for both the demonstration or the activity.

50 Amazing Finds on Google Earth

Engineering

Demonstration (10 min) - Tin foils boats! We will enhance the engineering analysis skill with tin foil boats holding capability predictions. I will have a bin filled with water and the attendees will get to choose which boat (out of three) will hold the most pennies and how many it will hold before it sinks. We will discuss what happened with the boats in the end and how to make successful boats using the engineering process.

Activity (3 min)- We will use our engineering skills to build a paper boat. We will go through step by step to show them how to make it. They can test how much it can hold on their own time!

Mathematics
Graphing!

Demonstration (10 mins): Explain to the students the fields that is used in and how they will need to learn it, then I will go over some of the necessary equations and a demonstration of the activity.

Activity (5 mins): We will have a graphing competition using desmos(free, web based, no account needed).

Our inspiration

- A **strong woman** in STEM -
  - Marie Skłodowska Curie
- Discovered radioactivity as well as polonium and radium, both radioactive elements.
- Was **not allowed** to attend the University of Warsaw since she was a woman.
- She is the only person, even today, to win **two nobel peace prizes** in different topics.

Why She Inspires Us

Marie Curie proves that women can be **just as smart**, **if not smarter** than most men, and not giving women and men **equal opportunities** is squandering lots of **potential**. She shows that getting children interested in STEM at a young age can produce the great minds of the **future**. She shows how discrimination is beatable and that anyone can achieve amazing things. She **persevered** through the **judgement** she was receiving and decided to prove herself. We hope to achieve as much success through our programs as she did!
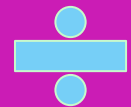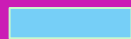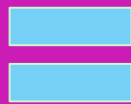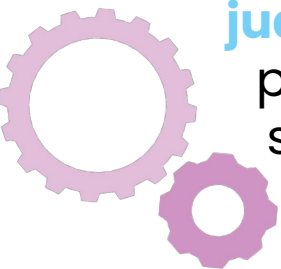
Credits

If you would like more information about the STEM event go: https://tinyurl.com/stemevent21

Entrants: Arva Desai, Robert Glenn, Carter Mead, Maya Raman, Nivedita (Nidhi) Thirthamattur

Team Number: 2360A

Title of Submission: Girl Powered: Time to Change Up

2360A