



BY LILLIAN, CHUNCHUN(RACHEL), XINGY AND
KATHERINE

Spin Up **Girl-Powered**

A U S T R A L I A , M E L B O U R N E , E M U 5





EMU5

Girl-powered is being able to destroy the **prejudice** towards females in these "male-dominated areas." We aim to act as role models for girls hesitating to participate in STEM areas due to a need for more confidence and support.

COMPETE LIKE A GIRL, WIN LIKE A GIRL

Meaning of Girl⚡Powered



COLLABORATION

Open-minded

Positive

Brave

Independent

Resilient

Confident

Perseverance

Persistence

Powerful

Win

Constancy

Enthusiastic

Faith

Professional

Strong

Carry

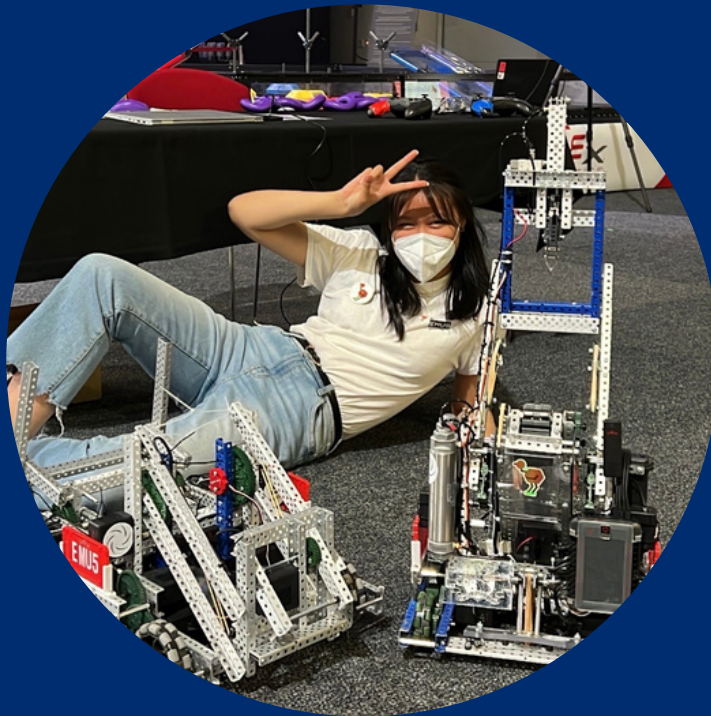
Ambition

Creative

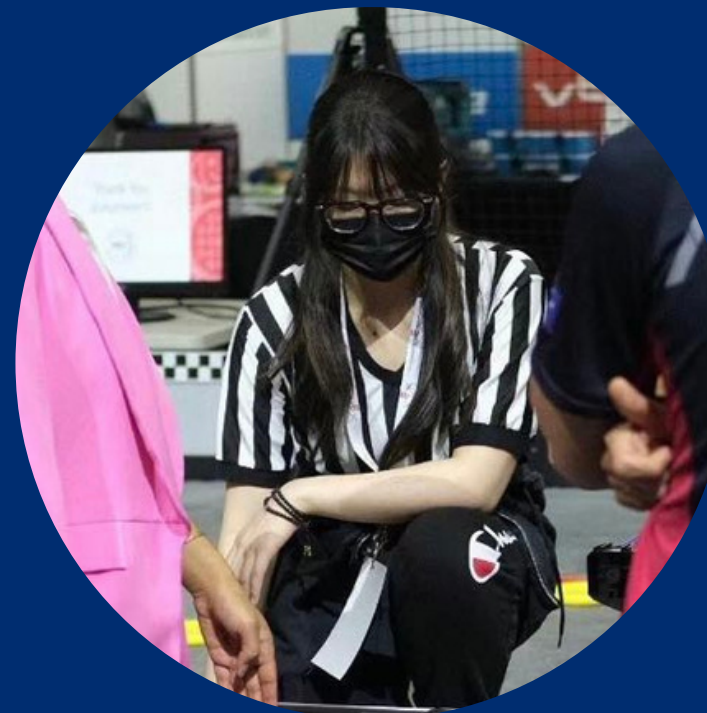
Meet the Girls

Xingy Huang

Builder and Documentation



This is Xingy, she is a third-year B-Sci student at the University of Melbourne, majoring in Mechatronics Engineering. She is very interested in not only pursuing engineering herself but also making sure that she is creating better and more accessible opportunities for girls and non-binary students to get involved in Engineering. Being engaged in Girl Powered events has given Xingy the opportunity to do just that, with a notable one being assisting in the Girl Powered event hosted at the VEX 2022-2023 Australian National Championship. She believes that engineering is a wonderful field that everyone should expose themselves to. With the Girl Powered mentality, she is now dedicated to ensuring all girls and non-binary students can be exposed to robotics. One of her favourite moments so far is mentoring 2 VEX IQ teams which had an even mix of boys and girls. Seeing the enjoyment that the female students experienced is something that will continually motivate her to be a hardworking role model for girls in engineering.



Chunchun Ye

Driver

Chunchun discovered her passion for robotics five years ago, and then she quickly honed her skills and set up a team with talented friends in engineering and programming. Her team won a number of Championship titles in Australia and around the globe. She encountered negative statements such as girls being incapable of essential tasks such as engineering and programming. Nonetheless, Her achievements show that robotics is for everyone regardless of gender. She will never allow any stereotypes or discrimination against girls on her team. Chunchun hopes to be more influential in bringing her experience and belief to more communities.



Lillian Pang Yuan

Driver and Programmer

Lillian had four years of experience in VEX robotics. She formed a girl team in high school and won several national awards. After noticing that many girls decided to give up on robotics because of the stereotypical pressure given by the environment, Lillian participated in a girl-powered essay challenge and online community challenge to provide mental and technological support to girls new to this field. It's Lillian's first year in VEX U. Since she is collaborating with people with more knowledge and strength in designing, building, and programming, she developed new skills relating to CADing and Rust, which will be helpful in the future.

Katherine Tao

Builder



Kat had always been interested in programming, building and designing from a young age. Having experience in both software development and CAD since middle school, she joined VEX robotics in university to find more opportunities to engage in the STEM & robotics field. Often having been one of a handful of girls among a sea of male students, Kat hopes to encourage more girls to enter and flourish in STEM.



EMU5

Meet Our Team



Spencer Vaughan

Captin and Documentation



Anthony Le

Head Builder



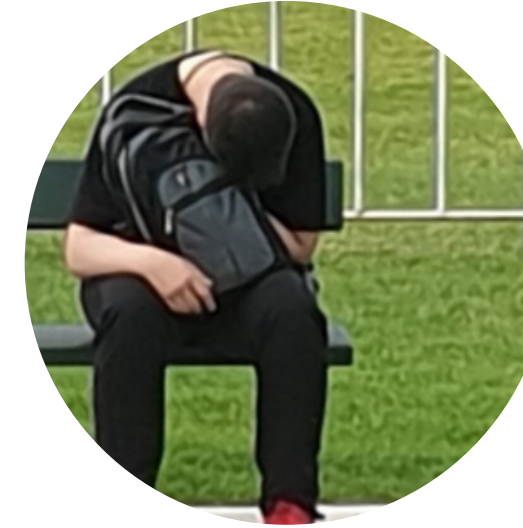
Leonid Chizhevskiy

Lead Programmer



Ben Goldfarb

Builder



Salvatore Scarpino

Documentation



Suchit Rawat

Programmer and Documentation



Wara Asahara

Documentation and Builder



Jaeho Park

Documentation and Builder



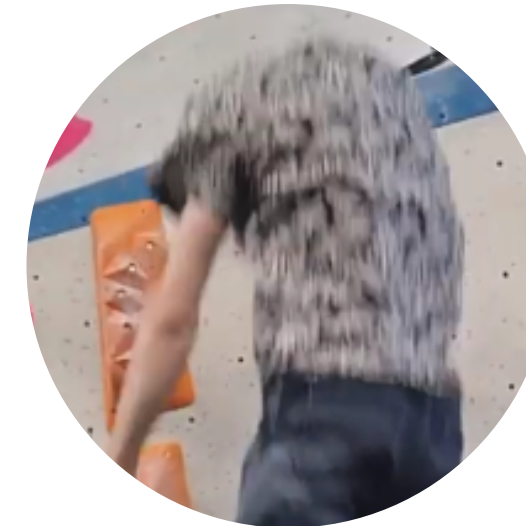
Aden McCusker

Programmer



Milo

Programmer



Nickoles Leon

Programmer



Charlie Cai

Builder and Documentation



EMU5

Roles



Roles

Each of the team members has one or two roles that they mainly focused on. They also fulfil other roles whenever required.

Builder

Katherine is one of the builders. The role of builders is to design, CAD, and build the robot, as well as fix any urgent hardware errors that occur.

Programmer

The roles of programmers are to code the joystick buttons used during the driver control period, autonomous period code, and skills code using odometry and PID.

Documentation

Xingy is one of the members in charge of documenting the meeting minutes and recording the robot's design, construction, and programming progress in the engineering design notebook.

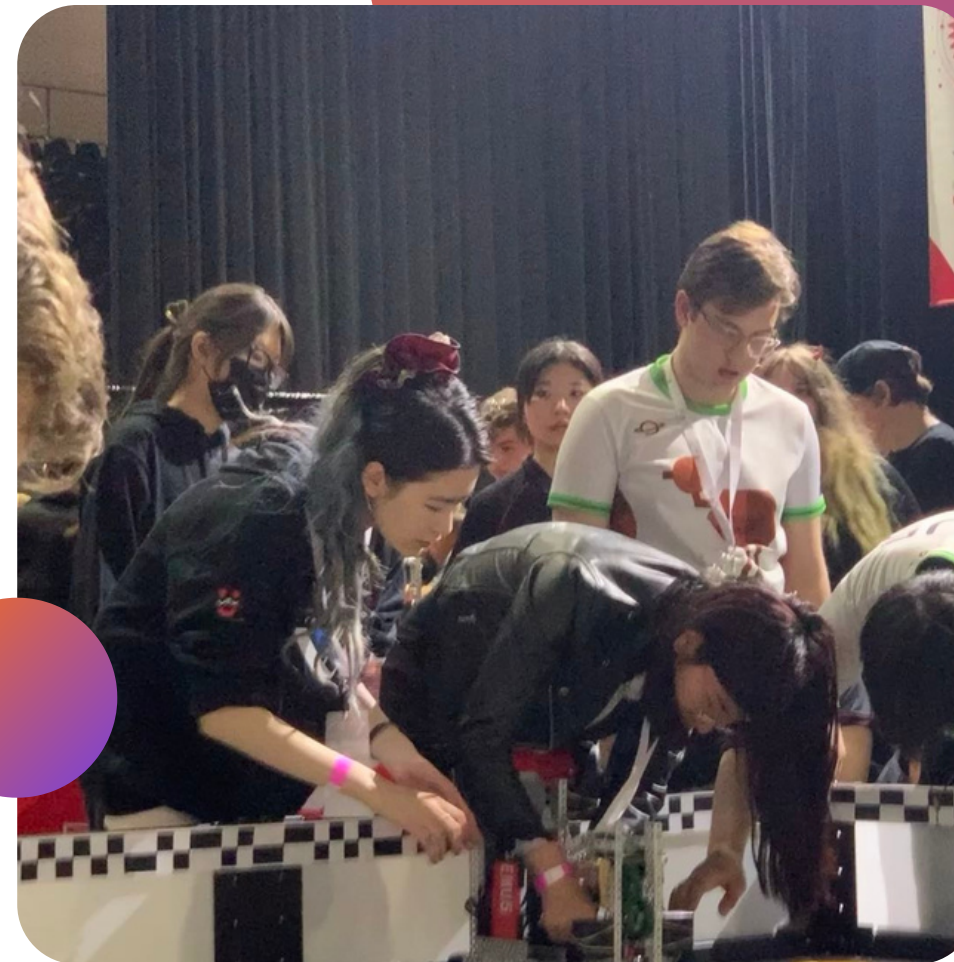
Driver

Rachel and Lillian are drivers. Drivers are in charge of planning the skills route and gaming strategy. They also need to enhance their driving skills to ensure the proper actions are made during competitions.



EMU5

an *Inclusive* Environment that attracts a *Diverse* group of Student



Culture

Team members in EMU5 come from different parts of the World with different cultural backgrounds. The diversity of experiences and creativity allow the formation of new and better ideas through discussions with each other due to different ways of thinking.

Gender

The team consists of both girls and boys. In the past, many Females in STEM fields had tremendous achievements and showed their girl power. At present, girls in EMU5 also use their confidence and independence, as well as previous results, to break the prejudice of males are always better than females in STEM fields.

Area of Study

EMU5 is a team composed of university students from different year levels and majors. Some students major in computer science, so they are attracted more to programming. Some major in engineering, so they are happy to focus on building. Students studying arts or other areas are more interested in CAD and writing engineering design notebooks.

Years of Experience

Some members from EMU5 had more than eight years of experience in robotics. However, some beginners have never done anything related to robotics before. We always welcome new members passionate about STEM and robotics to join.



EMU5



Diversity of **Persepectives**

Team Chemistry

EMU5 is a large team with diverse backgrounds. It is believed that everyone should treat each other equally and with respect, regardless of gender and experience. During discussions about the robot's design, they ensure everyone's opinions are heard. By doing so, they placed first in both Australia VEX U national championships - winning all qualification matches and skills and receiving the Excellence Award.

Ability to Succeed

Everyone is involved and included in the robot design, construction, hardware problem solving, programming testing and driver practice - strategy making - stages. Therefore EMU5 is able to come up with the best robot possible.

Besides that, EMU5 promotes de-gendering. Girls can be just as strong on their own and have strong hearts. This is because EMU5 believes that a deliberate emphasis on women as a gender can actually create more stereotypes.



EMU5

OUR STEM ROLE MODEL

ADA LOVELACE

1815 - 1852

Our STEM role model is Ada Lovelace, a female mathematician, and writer. She was the first to recognize that the machine had applications beyond pure calculation and published the first algorithm intended to be carried out by such a machine.

Lovelace is also known as the first programmer. Although ladies engaging in scholarly pursuits was not generally encouraged at this time.

Her story is inspiring as she proved that women could be talented and strong. Anyone can be the odd one, be the first to achieve something that others haven't done before, regardless of who you are.





EMU5

Highlight

01

1st Australia VEX U Team

Many team members placed 1st in Australia VEX Robotics National Championship consecutively for 5 years

02

Australia VEX U Excellence Award and Tournament Champion since inception

Representing Australia VEX U teams to compete at Worlds since Tipping Point

03

"De-gendering"

EEMU5 aims to "de-gender" because it is believed that anyone can do anything. Everyone should be treated equally without stereotypes.

04

Actively Participate in Girl Power Events Across Australia

Inspire and empower more girls by becoming role models to show that girls are capable of any task.

Hey! I'm wondering what you took as your studies in Year 12. You are a really big inspiration in robotics so I hope someday I could become like you ❤️

8



EMU5

***"Alone we can do so little,
together we can do so much."***

By Helen Keller

See you at Worlds 2023^_^



2022-2023



RECS

Robotics, Engineering +
Competition Society

A U S T R A L I A , M E L B O U R N E , E M U 5

Credits

Reference:

EMU5 Engineering Design Notebook 2022-2023

Person (2020) Women in STEM and the legacy of Ada Lovelace, Business Chief North America. Available at:
<https://businesschief.com/leadership-and-strategy/women-stem-and-legacy-ada-lovelace>

(Accessed: January 14, 2023).

Team Number:

EMU5

Location:

Melbourne, Victoria, Australia
Univerisity of Melbourne

