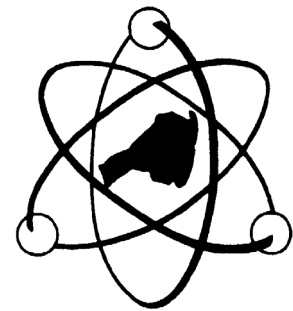


# Robotics and Coding Club (RoCo)

---

HIGH TECHNOLOGY HIGH SCHOOL

ADVISER: MR. HANAS



# What is RoCo?

---

- The Robotics and Coding Club is a space for students who are interested in the design and development of robotics and software.
- Its members, ranging from aspiring developers to complete novices, spend the year:
  - Learning about concepts
  - Working on projects
  - Participating in hackathons
  - Participating in the VEX Robotics Competition (VRC)
- Current Membership: 123

# The Leadership Team

---

- Club Advisor: Mr. Hanas
- Coding Co-President: Ore Alao
- Robotics Co-President: Mia Ladolcetta
- Secretary: Marissa Teitelbaum
- Event Coordinator: Arsh Singhal
- Event Coordinator: Arya Tschand
- Event Coordinator: Noah Rediker
- Event Coordinator: Isaac Buckman
- Web Editor: Thomas Makin

# Robotics and Coding Councils

---

The robotics and coding councils are responsible for planning the various activities for the club's general meetings:

<b>Robotics Council</b> <b>Led By: Mia Ladolcetta (12)</b>	<b>Coding Council</b> <b>Led By: Ore Alao (12)</b>
Marissa Teitelbaum (12) Arsh Singhal (12) Melanie Chen (12) Roy Chen (12) Aliya Grinberg (10) Ayden O'Keefe (10)	Isaac Buckman (12) Arya Tschand (12) Thomas Makin (12) Jonah Sussman (12) Noah Rediker (11) Rhea Chandragiri (11) Kanita Sivananthan (11) Andrew Gerchak (10)

# General Meetings

---

- For the 2020-2021 school year, general meetings have been held remotely on most Tuesdays.
- The general meetings have been focused on delivering the following lessons:

Python	Web & App Development	Arduino	Other Topics
<ol style="list-style-type: none"><li>1. Input/Output &amp; Variables</li><li>2. Boolean &amp; If Statements &amp; Loops</li><li>3. Lists &amp; Dictionaries</li><li>4. Iterables &amp; For Loops</li><li>5. Functions &amp; Pseudocode</li><li>6. Libraries</li><li>7. File Input/Output</li><li>8. OOP: Encapsulation</li><li>9. OOP: Special Methods</li><li>10. OOP: Inheritance</li><li>11. OOP: Overriding</li></ol>	<ol style="list-style-type: none"><li>1. JS 1: Syntax and Variables</li><li>2. JS 2: Flow and Control</li><li>3. JS 3: Linking JS &amp; HTML</li><li>4. JS 4: Output and Interactions</li><li>5. JS 5: Website Challenge</li><li>6. React JS: Introduction</li><li>7. React JS: Challenge Day</li><li>8. React JS: Special Topics</li></ol>	<ol style="list-style-type: none"><li>1. The Basics, Buttons &amp; LEDs</li><li>2. Loops, Conditionals and PWM</li><li>3. Peizos &amp; Range Finders</li><li>4. Temp Sensor and Motors</li><li>5. Photoresistor, Vibration Motor, LCD</li></ol>	<ol style="list-style-type: none"><li>1. GitHub</li><li>2. ML: Linear Regression &amp; Tensor Flow</li></ol>

# VEX Competitive Teams



765A (Alpha)	765X (Xenon)	765N (Nova)
<p><b>Captain:</b> Melanie Chen (12) Bradley Miller (11) Abhiram Pulavarthi (11) Shiva Subramanian (11) Pranavi Gollamudi (11) William Edwards (12) Shubhum Agrawal (12) Rhea Chandragiri (11)</p>	<p><b>Captain:</b> Roy Chen (12) Jack Hao (12) Ryan Glasser (12) Varun Tupuri (12) Manan Saaraswat (12) Raymond Shen (12) Arsh Singhal (12) Aliya Grinberg (10)</p>	<p><b>Captain:</b> Esben Nielsen (11) Sidharth Srivastava (11) Andrew Gerchak (10) Ayden O'Keefe (10) Harold Huang (11) Rhea Kripalani (11) Amanda Guan (10) Robert Kang (11)</p>

# 2021 VEX Season

---

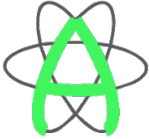
- Due to COVID-19 most competitions were pre-recorded remotely.
- Robot Revolution (an unaffiliated robotics group in NJ) held in-person competitions where 1 team of 4 students and an adviser could enter the facility at a time.
- Due to COVID, this year's season in NJ was limited to Robot Skills, which includes both driver and autonomous programming components.
- Here is a [link to the video](#) of a practice run for our autonomous code.
- Under normal conditions, the VEX Season would also include 2 vs. 2 competitions at each tournament, however, due to the COVID restrictions in NJ this was not possible for the 2020-2021 season.

# 2021 World Qualifier & Future Plans

---

- Team 765A qualified for the 2021 World Championship, which will be a live remote event. We will stream our robot skills runs from HTHS.
- This is the third time an HTHS VEX team has qualified for the World Championship.
- Interest in VEX continues to increase, with fifty-five 9<sup>th</sup>, 10<sup>th</sup> and 11<sup>th</sup> graders interested in joining the HTHS teams.
- This is leading us to consider adding a 4<sup>th</sup> team if we can overcome the financial obstacles.
- This year Mr. and Mrs. Chen volunteered to help with raising donations from HTHS parents, employers and corporate sponsors.
- Next year I am planning on following models used at other schools such as Millburn, Cherry Hill, and South Brunswick and forming a VEX Parents Association to aid in fundraising, which is an annual endeavor.
- NJ is extremely competitive in VEX with Millburn earning the title of World Champion two years ago.



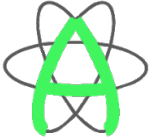
h t h s . H  A C K S ( )



---

## What is a hackathon?

- A hackathon is a sprint rather than a marathon.
- Programmers and engineers combine forces and let their imaginations run wild as they compete to create the coolest project possible.
- From devices to help organize pills to spice dispensers, the possibilities are limitless.

h t h s . H  A C K S ( )



---

## What is [hths.hacks\(\)](#)?

- hths.hacks() is a student-run hackathon hosted by RoCo.
- Takes place completely online targeting high school students from across the world.
- We will use a moderated Discord for managing all participant interactions
- We aim to give students the opportunity to build solutions to real-world problems while meeting others and having fun.
- On May 15-16, 2021, over 300 students will spend 24 hours brainstorming, implementing, and showcasing their projects.
- We are currently looking for any parents who work in the technology field to participate on our speaker panel.

h t h s . H A C K S ( )

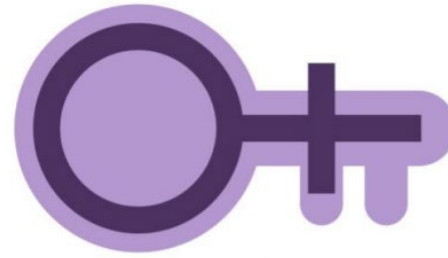


---

### Some background information:

- This will be the third time we have hosted the event and the second time it has run virtually.
- Last year's event saw 300+ participants from 20 countries submit 73 projects was organized and managed primarily by students.
- Projects were judged by the CTO of Stream and engineers from Facebook and Google.
- In the past, we met our budget requirements (\$2500) through the generous donations of HTHS parents and their employers.
- Donations were used to purchase prizes such as Bose Sunglasses, Nintendo Switch Lite, and the Amazon Fire Stick
- Corporate sponsors provided various prizes in the form of software licenses (Wolfram | One, Echo AR) and site credit (AWS).

# cypHER



- [cypHER](#) is a full-day web development workshop dedicated towards teaching middle school girls how to code and run entirely by female HTHS students!
- Participants will learn HTML, CSS, and/or JavaScript fundamentals in the morning, and then apply these skills to create unique websites in the afternoon.
- The third annual cypHER event will be held on May 8th, 2021, and we are aiming for over 100 participants.
- This year's cypHER student leaders are Suhani Balachandran and Emily Luo.
- You can learn more about their team at: <https://www.instagram.com/hthscypher/>
- In the past, cypHER met their budget requirements (\$2000) through the generous donations of HTHS parents and their employers.
- Donations will be used to purchase T-shirts and stickers for the participants.



## In Closing...

---

- RoCo is extremely appreciative of all the support provided by the High-Tech Community.
- We would not be able to provide these opportunities without you!