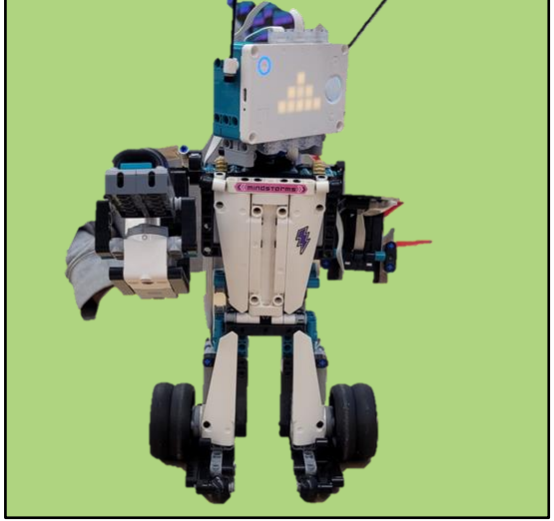
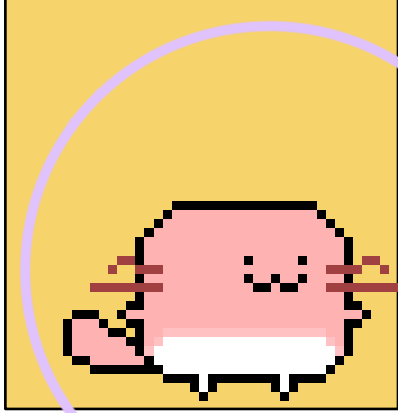
Joe the Axolotl, Clever Closet, & Demonic Robots

Ashley Holcomb
Stir Trek 2024





Weird Projects of Tech-Savvy Middle School Girls

Opinions & comments do not reflect those of JPMC, GWC, or Otterbein University

WHAT'S A CLUB?

Clubs are free programs for 3rd-5th and 6th-12th grade students to join a sisterhood of supportive peers and role models using computer science to change the world. Clubs are completely free and offer fun activities through a flexible curriculum that adapts to your unique needs. Clubs can take place after school, on weekends, or during the summer, and they can be held in-person or entirely online.

Apply to Start a Club →

We partner with school districts, library networks and afterschool programs to launch Clubs in communities across the country.

girls who code / HQ

MY PROGRAMS MY CALENDAR PROJECT GALLERY HELP ENG AH

OH50055 (FALL) OTTERBEIN UNIVERSITY: SESSION B FACILITATOR

Curriculum Program Info Members Progress Messages

Filter by: Type Time Search

MEET YOUR PROGRAMMING LANGUAGES

BEGINNER

Welcome to Scratch

20min

If you've never used Scratch before, start here to create an account and learn the basics.

RESUME

BEGINNER

Welcome to Python

25min

If you've never used Python before, start here to create an account in CodeHS IDE and learn the basics.

START

BEGINNER

Welcome to p5.js

25min

If you've never used p5.js before, start here to create an account in CodeHS IDE and learn the basics of this creative coding JavaScript library!

START

GAMES

VIEW MORE

Shape Sorter

In this **Beginner** activity, you will explore this branch of Artificial Intelligence by training your own model - and learning what that even means! You will use Google Teachable Machine to build a project that identifies one object via a webcam. Along the way, we'll talk about data bias and iterative design. You'll discover just how much data, thinking, and testing it will take to do this one task.

START

- Shape Sorter Sample Project

Project Brief	5min
Part 1: Get inspired	10min
Part 2: Train a model	20min
Part 3: Test our model	15min
Reflect	15min

Show Optional Resources

By the end of this project, you will be able to:

- Explain how machine learning works using non-technical language.
- Use Google Teachable Machine to train, test, and refine a ML model that identifies one rectangular object.
- Explain how bias impacts data sets.
- Examine the importance of large, diverse data sets, and its effects in everyday tech.

Materials and Sample Code

- Sample Project
  - *Project progress is demoed in each step videos.
- Shape Sorter Part 2 Step 3 Worksheet
- Teachable Machine

Standards

This aligns with the CSTA Standards:

- 3A-CS-01 (Devices): Explain how

580,000

GIRLS, WOMEN AND NONBINARY INDIVIDUALS SERVED

Our programs have served 580,000 girls, women and nonbinary individuals across the country and around the world since 2012.

50%

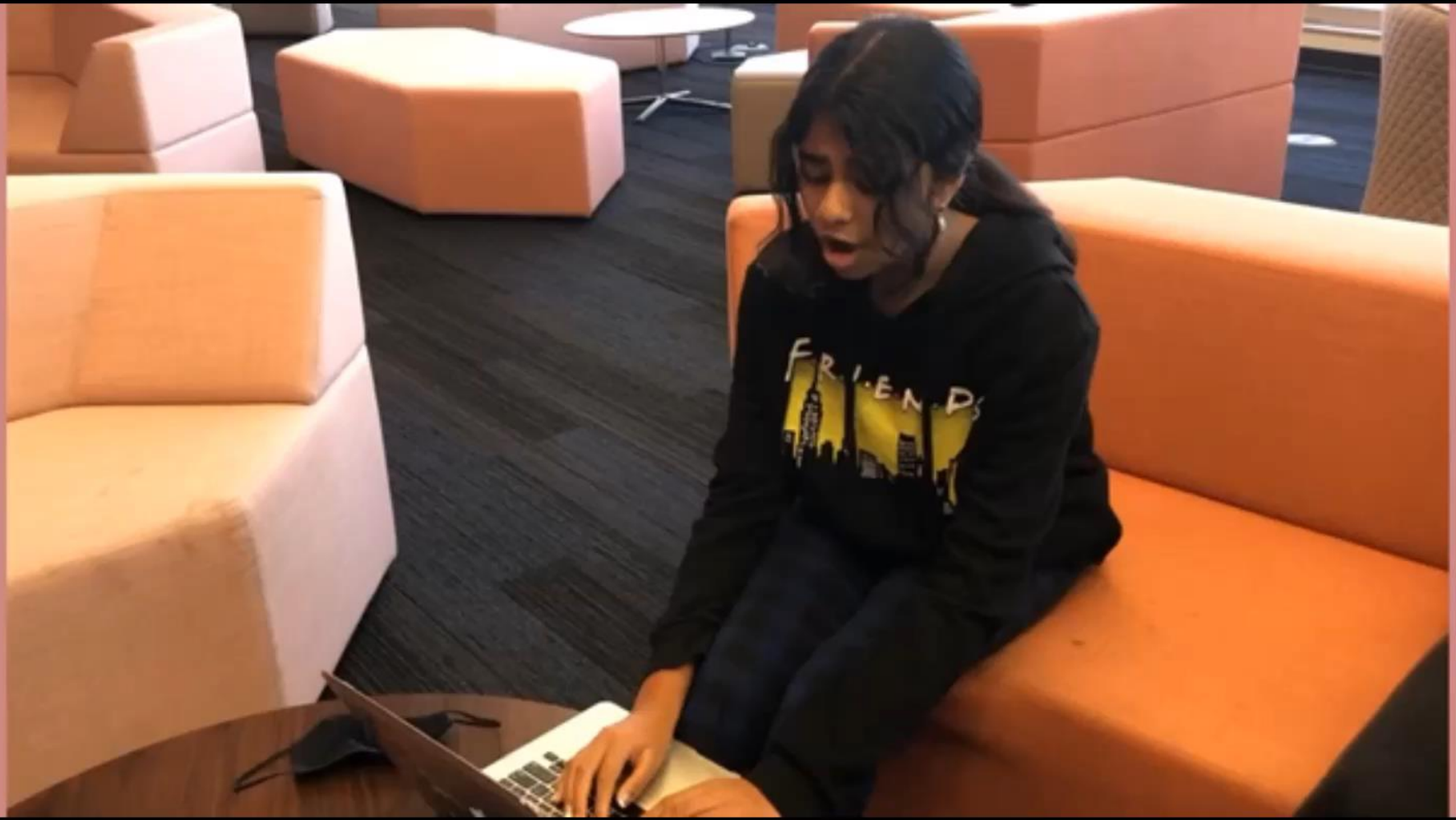
HISTORICALLY UNDERREPRESENTED GROUPS

Over half of the girls we serve come from historically underrepresented groups.

7X

THE NATIONAL AVERAGE

Our alumni are choosing to major in computer science, or related fields, at a rate 7 times the national average.


FRIENDS

2020
Arduino Light Show
Pololu Robotics

2021
Web Dev

2022
App Dev
Robotics

2023
Game Design
LEGO

2024
Web Dev
LEGO

Pololu Robots

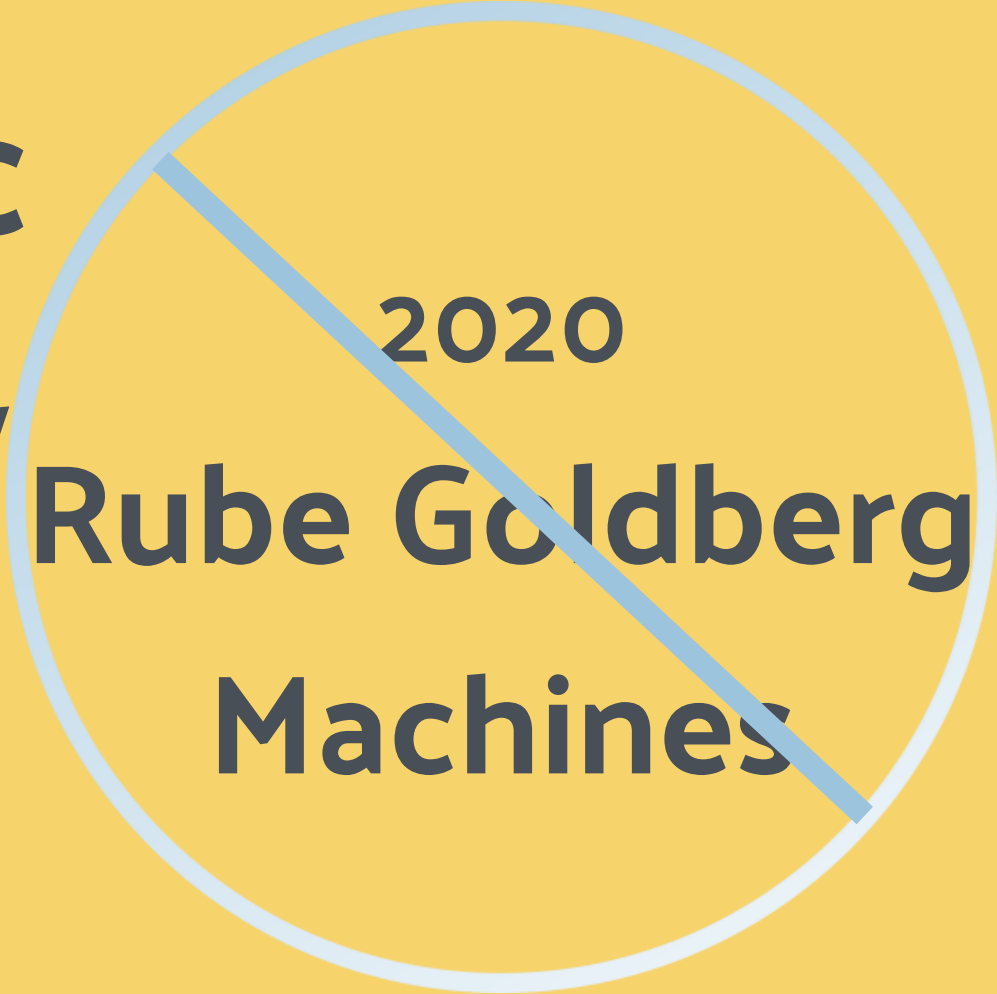
2020...

2020

Rube Goldberg Machines

Pandemic

GWC paused until further notice



Web Dev (remote)

2020...

Girls Who Zoom

How to join our virtual Girls Who Code sessions via Zoom

1. Visit https://us04web.zoom.us/j/8823714700?pwd=Tm5RZnBYdjA1S2pKNjhESFMzdlRDZz09
2. Select "join from your browser"

When system dialog prompts, click **Open Zoom Meetings**.

If you have Zoom Client installed, launch meeting. Otherwise, download and run Zoom.

If you cannot download or run the application, join from your browser.

a. If you do not see the option to join from your browser, select "Download and run Zoom" first. Then click "join from your browser"

When system dialog prompts, click **Open Zoom Meetings**.

If you have Zoom Client installed, launch meeting. Otherwise, download and run Zoom.

3. Type your name.

Join a Meeting

Your Name

Ashley :-)

What Is The Best Way To Prepare Potatoes?!?!

How do you like to eat your potatoes??

Please fill out this form about potatoes.

Potatoes are seeee a-peeling.

All my best spuds are potatoes.

What is your name? What is your favorite type of potato to eat?

How much do you like potatoes? How much do you like your potato cooked

- [ ] Raw Potatoes
- [ ] Baked Potatoes
- [ ] Fried Potatoes
- [ ] Mashed Potatoes
- [ ] Tater Tots
- [ ] Roasted Potatoes

Other Potato

When was the last day you ate potatoes? mm/dd/yyyy

Submit

This page says

Ore-Ida likes all potatoes. They like them 10 out of 10. They like these types of potatoes : raw baked fried mashed taters roast

OK

Potatoes are seeee a-peeling.

All my best spuds are potatoes.

What is your name? Ore-Ida What is your favorite type of potato to eat? all potatoes

How much do you like potatoes? How much do you like your potato cooked

- [x] Raw Potatoes
- [x] Baked Potatoes
- [x] Fried Potatoes
- [x] Mashed Potatoes
- [x] Tater Tots
- [x] Roasted Potatoes

Other Potato fries

When was the last day you ate potatoes? 03/10/2024

Submit

Lexi McQueen
HOLLISTER

App Development In-Person

At Otterbein University

MIT APP INVENTOR

Projects | Connect | Build | Settings | Help | My Projects | View Trash | Guide | Report an Issue | English | afholcomb72@gmail.com

CleverCloset_final

Screen1 | Add Screen ... | Remove Screen | Project Properties | Publish to Gallery | Designer | Blocks

Palette

Search Components...

User Interface

- Button
- CheckBox
- CircularProgress
- DatePicker
- Image
- Label
- LinearProgress
- ListPicker
- ListView
- Notifier
- PasswordTextBox
- Slider
- Spinner
- Switch
- TextBox
- TimePicker
- WebViewer

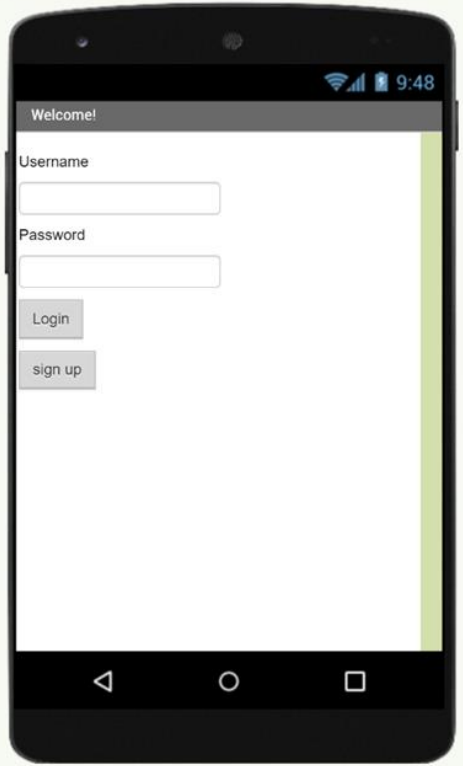
Layout

Media

Viewer

Display hidden components in Viewer

Phone size (505,320)



Non-visible components

All Components

- Screen1
  - Label3
  - Label1
  - username
  - Label2
  - password
  - login
  - signup
  - TinyDB1

Rename | Delete

Media

Upload File ...

Properties

Screen1 (Screen)

Appearance

AboutScreen

AlignHorizontal: Left : 1

AlignVertical: Top : 1

BackgroundColor: Default

BackgroundImage: None...

BigDefaultText

CloseScreenAnimation: Default

HighContrast

OpenScreenAnimation: Default

ScreenOrientation: Unspecified

Scrollable

ShowStatusBar

Title: Welcome!

Privacy Policy and Terms of Use Accessibility: accessibility.mit.edu

```
initialize global correctPassword to " "

when Screen1 .Initialize
do  set Label3 . Text to " Enter your credentials "

when login .Click
do  set global correctPassword to  call TinyDB1 .GetValue
                                   tag  username . Text
                                   valueIfTagNotThere  " not found "
    if  get global correctPassword = " not found "
    then  set Label3 . Text to " Invalid username "
    else  if  get global correctPassword = password . Text
          then  open another screen with start value  screenName  Closet
                                                      startValue  username . Text
          else  set Label3 . Text to " Invalid password "

when signup .Click
do  open another screen  screenName  Screen2
```

Display hidden components in Viewer

Phone size (505,320)

9:48

Closet

Credentials accepted!

Welcome,

To add screen

Current top

Next Top

current bottom

Next Bottom

Non-visible components

Display hidden components in Viewer

Phone size (505,320)

9:48

AddPhoto

Add photos

Bottom count

Top count:

Click to add tops

Take Picture Of Top

Click to add bottoms

Take Picture Of Bottom

Back to Closet

Logout

Non-visible components

9:48

Home

Home screen

-->

-->

Girls Who Code Otterbein presents

The Clever Closet

THE SMART WAY TO DRESS

Take a year of your life back by attending The Clever Closet launch party!

Saturday December 11th, 2021

11am - 12 pm

The Point at Otterbein

60 Collegeview Rd, Westerville, OH 43081

Arduino Light Show

2020

Pololu Robotics

Web Dev

2021

App Dev

Robotics

2022

Game Design

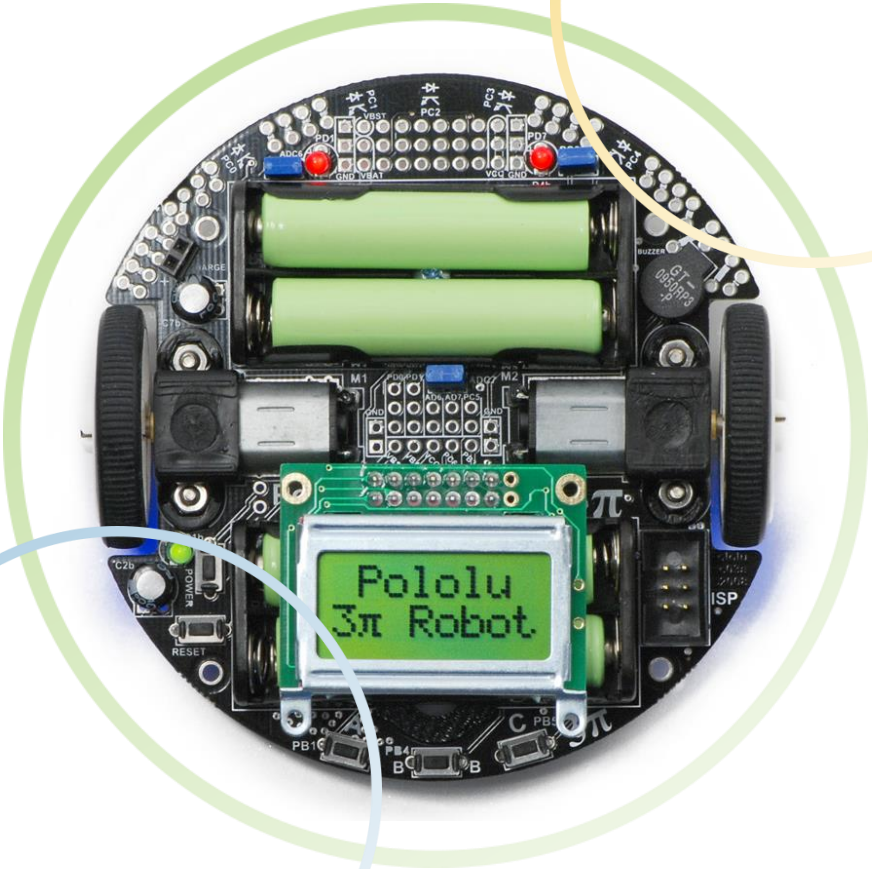
LEGO

2023

Web Dev

LEGO

2024



Bring back the ‘bots!

Breadth-first search

Spread out and search!!

When Harry has two options (left or right), he checks the left one first.

If he doesn’t see the cup, he goes back to where he was before and checks the right.

Depth-first search

Dive in and search!!

When Cedric has the option to go left, he takes it.

He continues down this path, going left if possible, until he finds the cup or cannot go left again. Then he will try to go straight and resume the always-go-left approach.

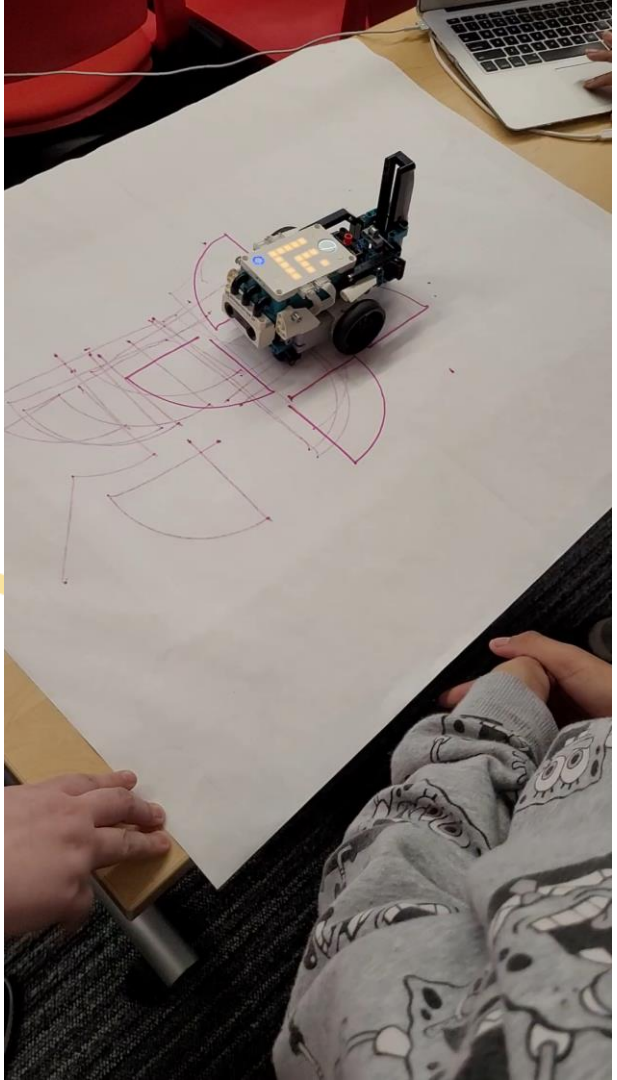
2022

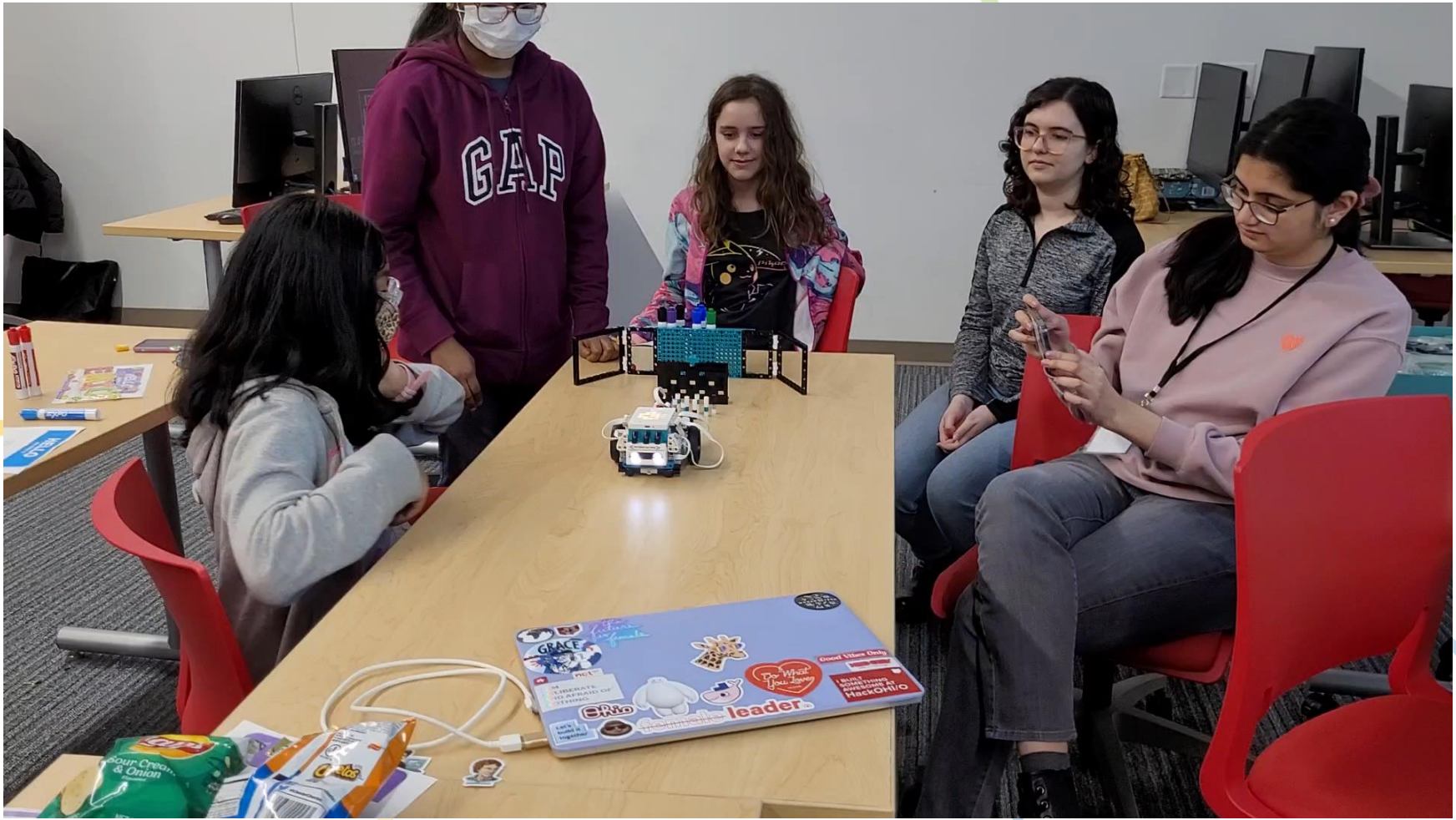
~~2020~~

~~Rube Goldberg~~

~~Machines~~

LEGO

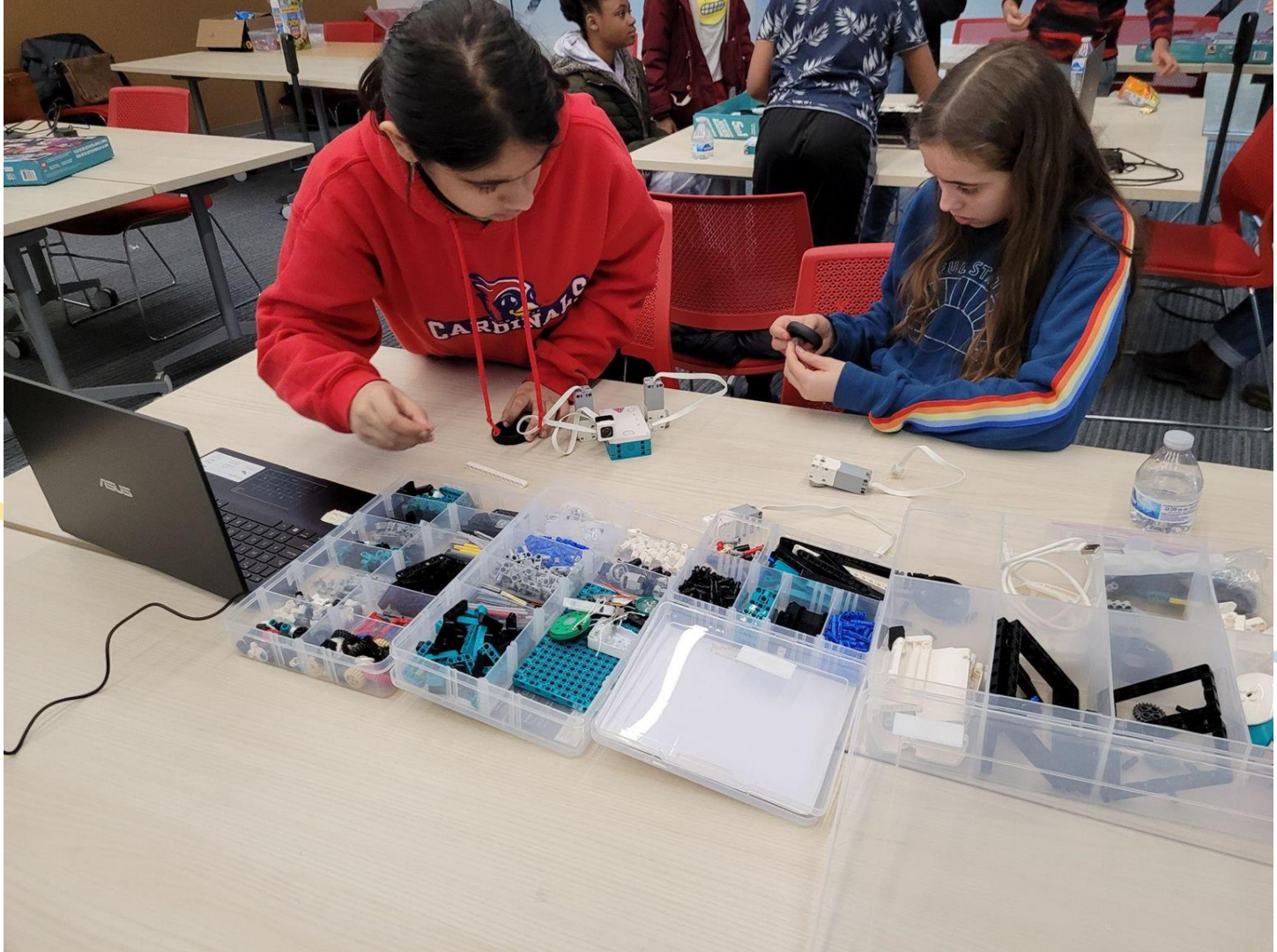


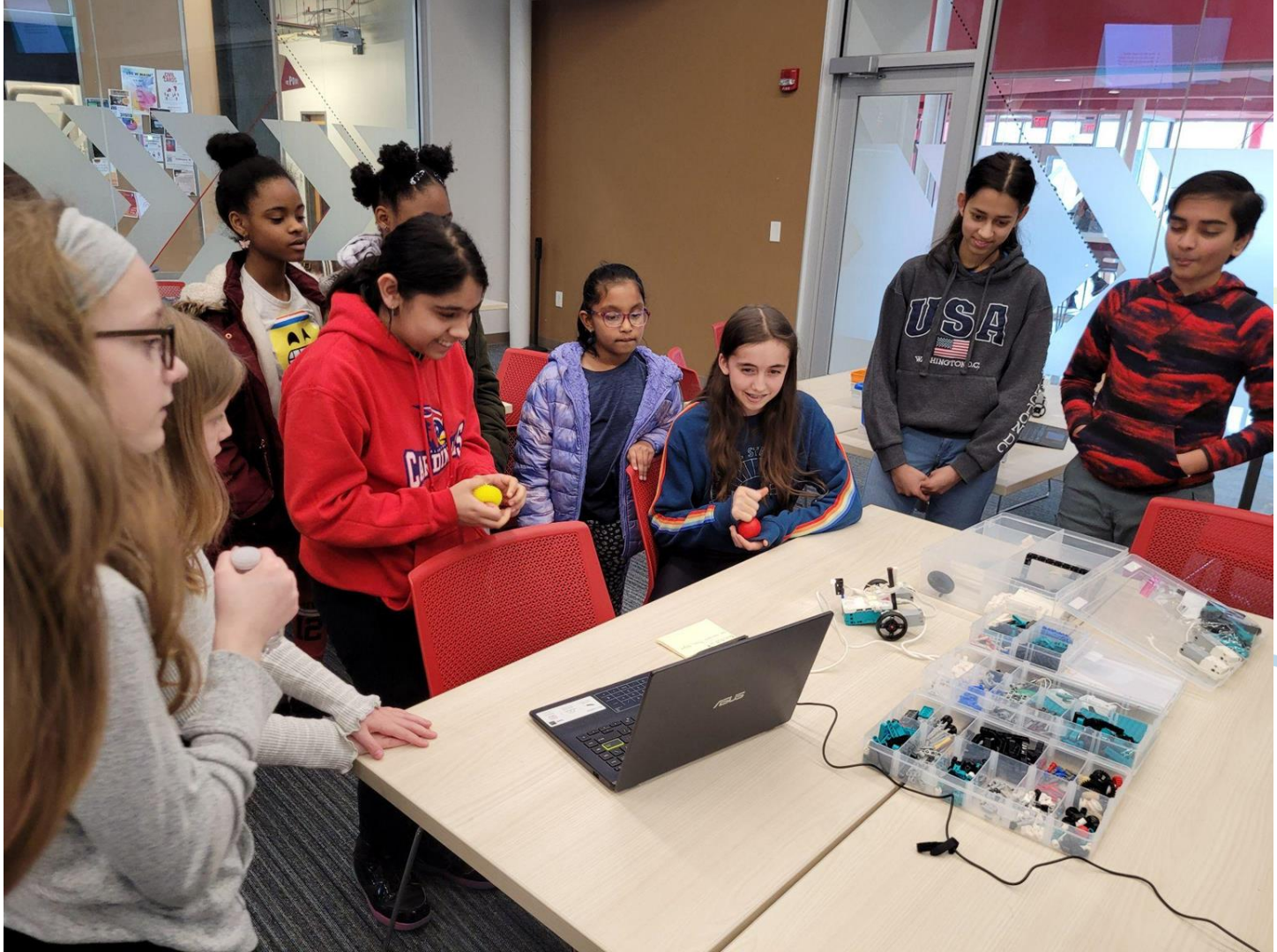

GAP
GRACE
leader
Good Vibes Only
HackOHIO

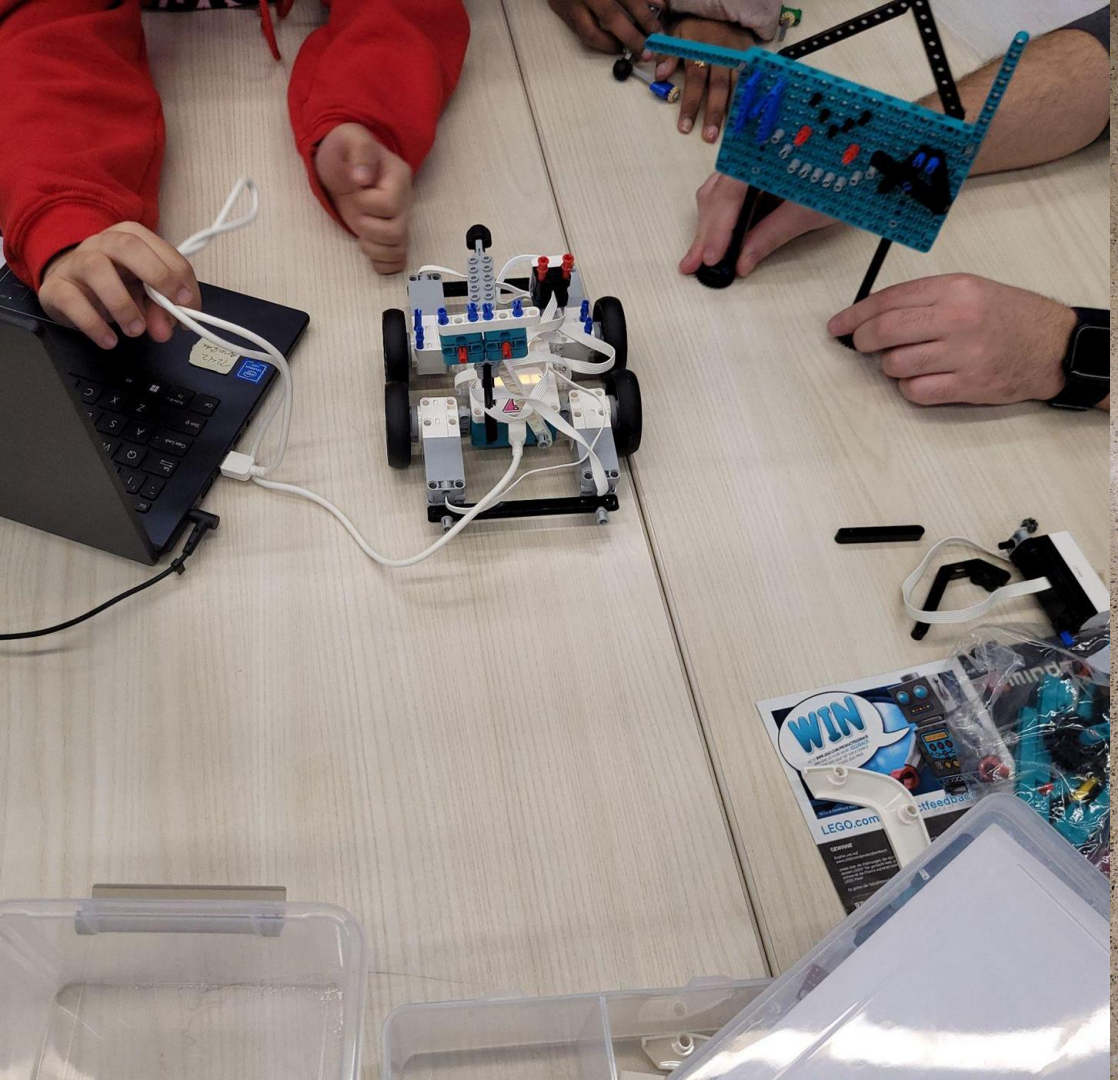
Isaac Asimov's "Three Laws of Robotics"

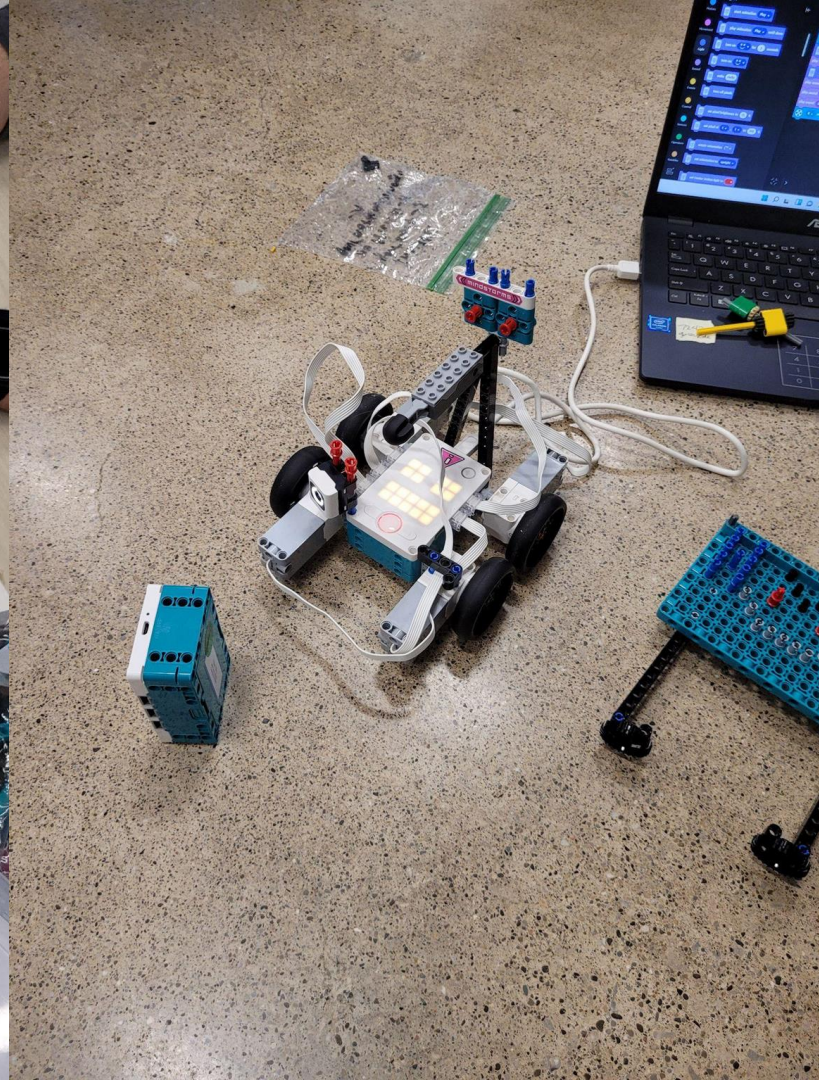
1. A robot may not injure a human being or, through inaction, allow a human being to come to harm.
2. A robot must obey orders given it by human beings except where such orders would conflict with the First Law.
3. A robot must protect its own existence as long as such protection does not conflict with the First or Second Law.

https://webhome.auburn.edu/~vestmon/robotics.html


CARDINALS
ASUS


USA


WIN
LEGO.com

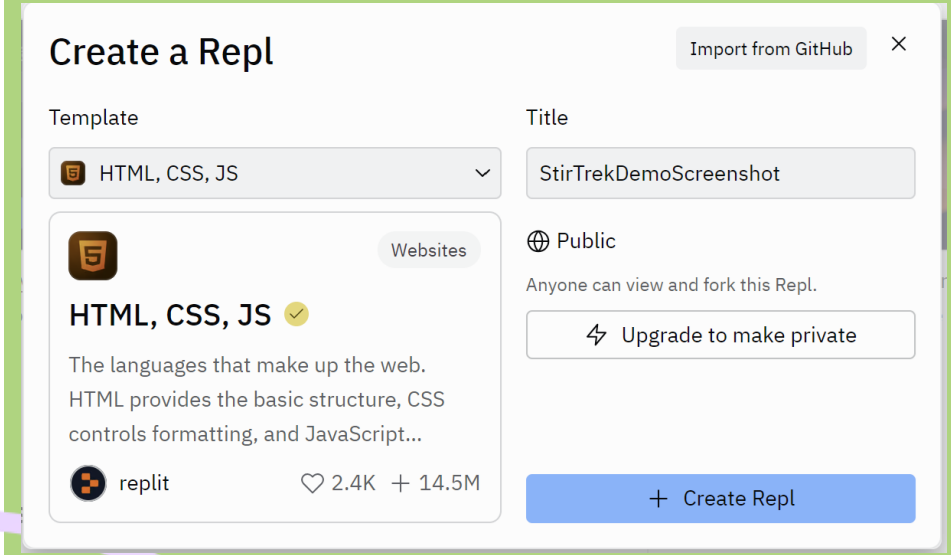


LIVE DEMO

Joe | Space Shooter

Web Dev

IRL


Create a Repl
Import from GitHub
Template
HTML, CSS, JS
Title
StirTrekDemoScreenshot
Websites
HTML, CSS, JS
The languages that make up the web. HTML provides the basic structure, CSS controls formatting, and JavaScript...
replit
2.4K
14.5M
Public
Anyone can view and fork this Repl.
Upgrade to make private
Create Repl

OSAAM

bitly

SCAN ME

Team OSAAM Awsome

Run

AI & Search | Invite | Redeploy

Search

Files

- 7d94609101be33192c27483a684...
- 9fb959ce7577f5772a472780fca9f...
- aboutUs.html
- BANANA.gif
- Cartoon Dog.jpg
- celebration.html
- dapanda.gif
- DogMeme.webp
- dot.jpg
- download.jpg
- Duck bunny.avif
- fanclub.html
- fanclub.m4a
- giphy.gif
- girlswhoarecool.jpg
- hi.html
- icegif-1176.gif

Tools

Recent

All

- AI
- Deployments
- Authentication
- Chat
- Code Search CtrlShiftF
- Debugger
- Docs
- Extensions

ration.html | hi.html | style.css | puzzle.html | fanclub.html | Duck bunny.avif | aboutUs.html | team chant.m4a | Deployments

hi.html

Format

```html
<!DOCTYPE html>
<html>

<head>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width">
  <title>OSAAM Rules!</title>
  <link href="style.css" rel="stylesheet" type="text/css" />
  <style>
    ul {
      list-style-type: none;
```

AI {-} HTML

Ln 1, Col 1 • Spaces: 2 History

Webview | AI

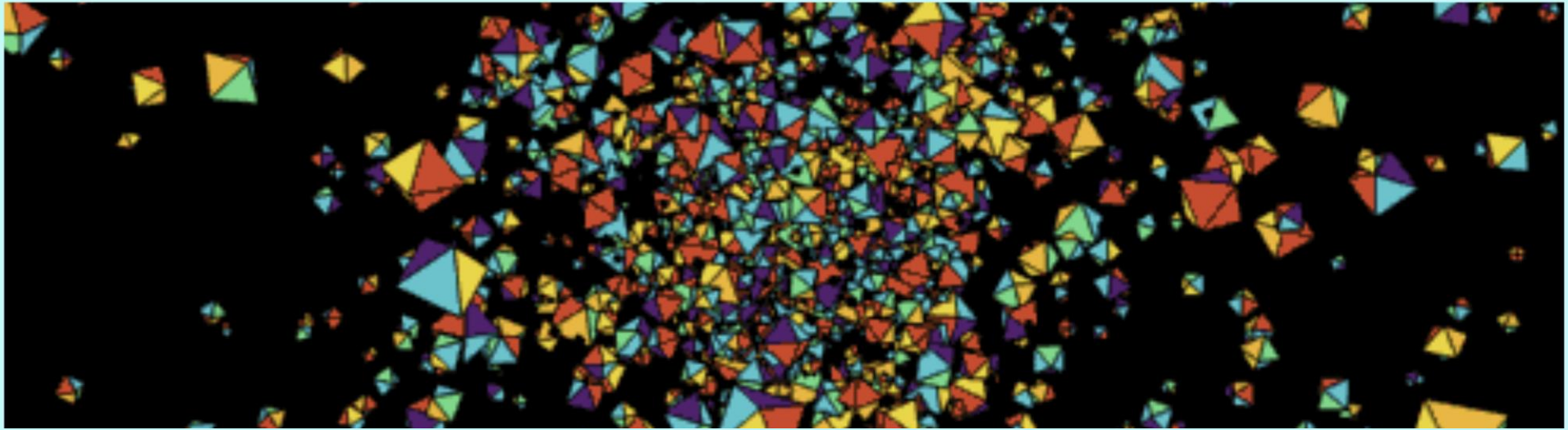
{...}.replit.dev /

Devtools | New tab

Home Celebration How To Be Great Puzzles OSAAM Fan Club About

Team OSAAM Rules... And Doge Agrees!

Recently Nominated Greatest Coders in the Nation!!!



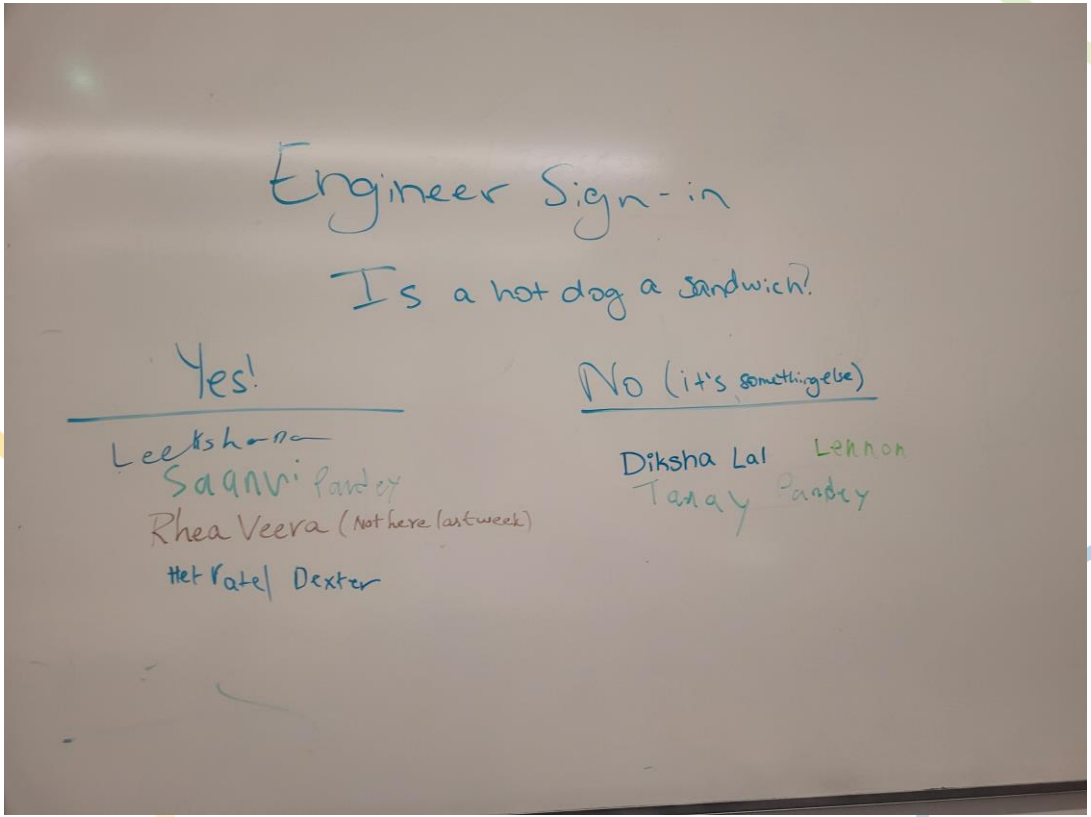
Olivia, Maya, Aishu, Saanvi, and Alina are the greatest coders in the world. This is evident from the fact that they were able to take on a random applicant with no experience in computer programming and train them into a skilled coder. Their ability to recognize potential, teach and train is unparalleled. It is a true testament to their skills and expertise in the field of computer programming. It might seem strange now that they were happy to take on a random applicant with absolutely no experience in computer programming, but Olivia, Maya, Aishu, Saanvi, and Alina are truly the greatest coders in the world. They have even trained and taught many other coders and programmers through their website, Team OSAAM Awesome.

How do we do it?

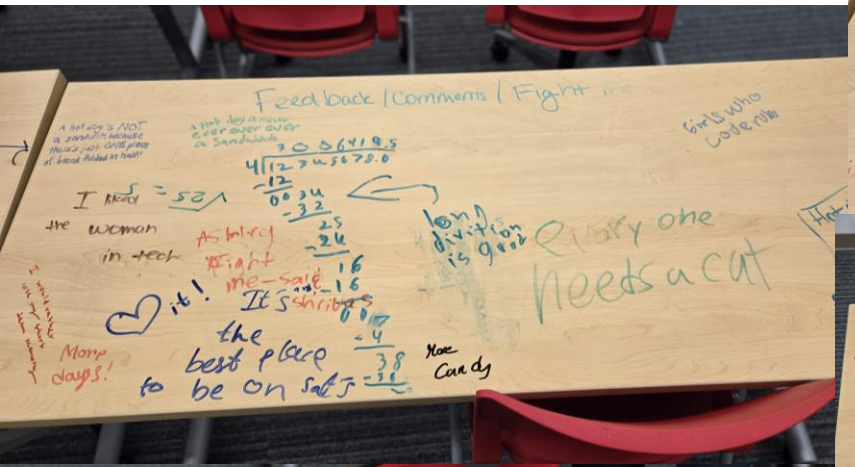
Seriously, how?!

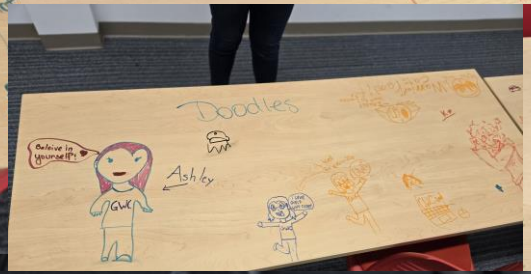
Morning Meeting
1. Your name
2. Your grade
3. Your
Yes, it's a Sandwich
Mira
Lila
Jamie
Michelle
PROGRAMMATION CONTROLE

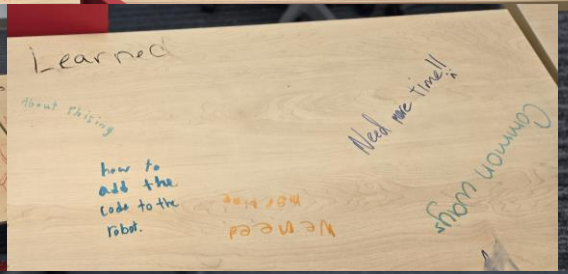
MVP, Morning Meeting, & Moral Quandaries

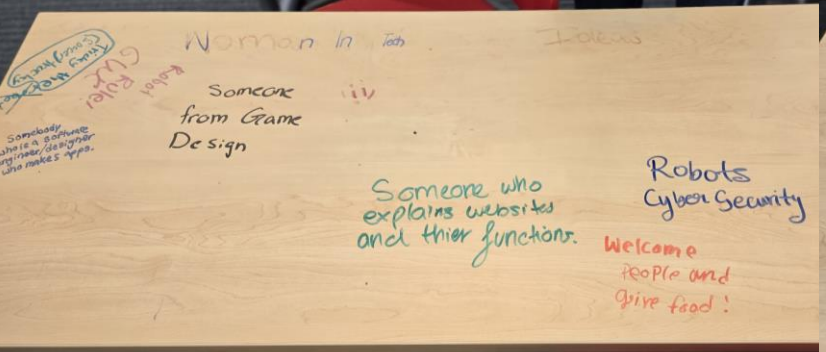


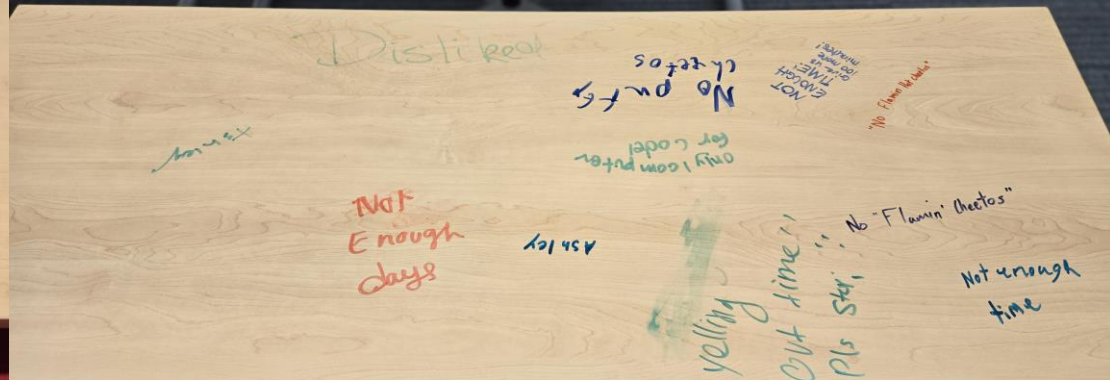
Retro - Talking Tables







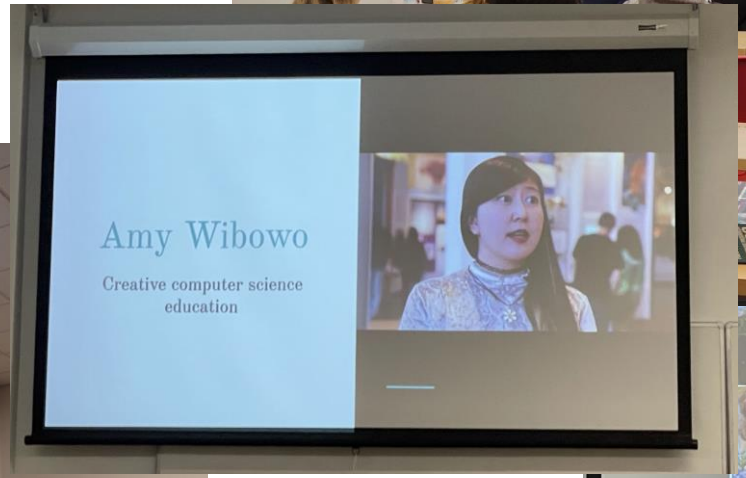


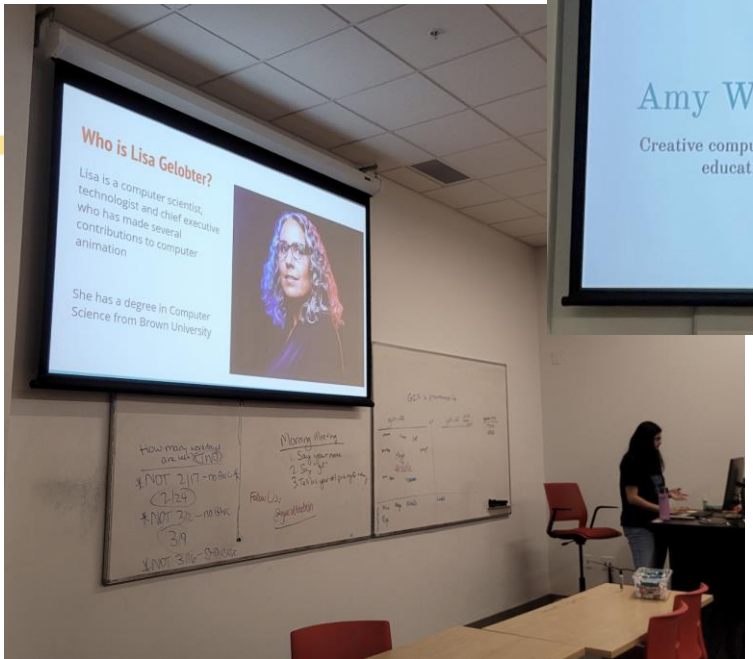


Snacks

Spotlights

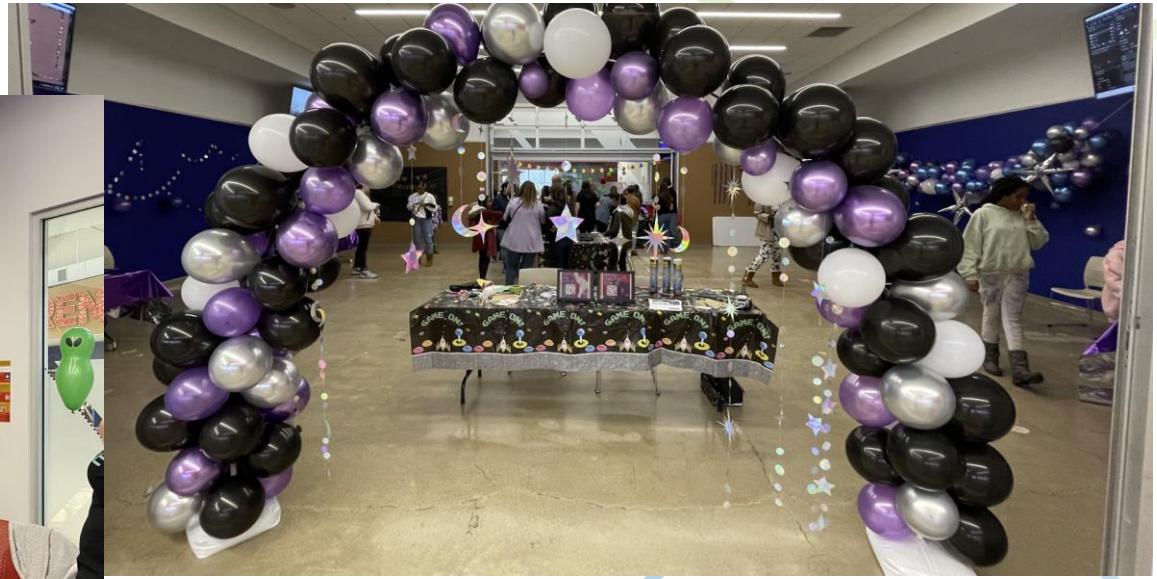
Announcements
1. STEM Rise - 3/12
2. Panel today
3. Snowcrawl is 3/16


Amy Wibowo
Creative computer science education


Who is Lisa Gelobter?
Lisa is a computer scientist, technologist and chief executive who has made several contributions to computer animation
She has a degree in Computer Science from Brown University

Morning meeting
1. Name
2. Update from last week
3. What you're excited for
4. Any concerns
5. What's you mother

Showcase!



The worst thing about working with kids

Missed opportunities for parents

Building agency

Letting your kid fail

Letting your kid choose

Letting your kid teach you

“Special” treatment or “advanced” program

Pipeline to technology

Role models

Family/friends in STEM

Social circle

Advising & support system

Connections

Support system

Sufficient Mentorship

Birth

Risk-taking

Early childhood

STEM toys/games
Media

Elementary School

Clubs

Middle School

STEM classes
Clubs

High School

Advanced
STEM classes
Clubs
Competitions

College

Internship

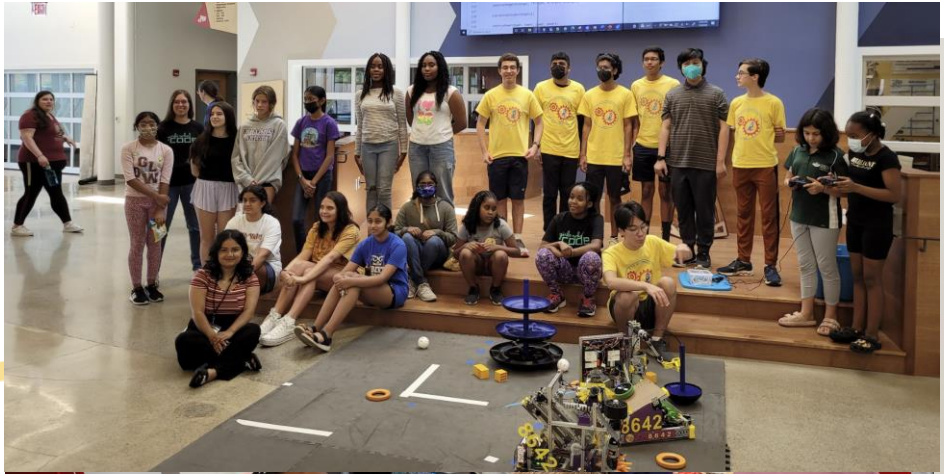
Early Career

Mid Career

Pipeline to technology

Birth	Early childhood	Elementary School	Middle School	High School	College	Internship	Early Career	Mid Career
Risk-adverse	Gendered toys/media	Gendered clubs	Fear of failure	Social conflict	Risk-adverse	Lack of connections	Poor/no mentors	Conflicts with family goals
Risk-taking	STEM toys/games Media	Clubs	STEM classes Clubs	Advanced STEM classes Clubs Competitions				

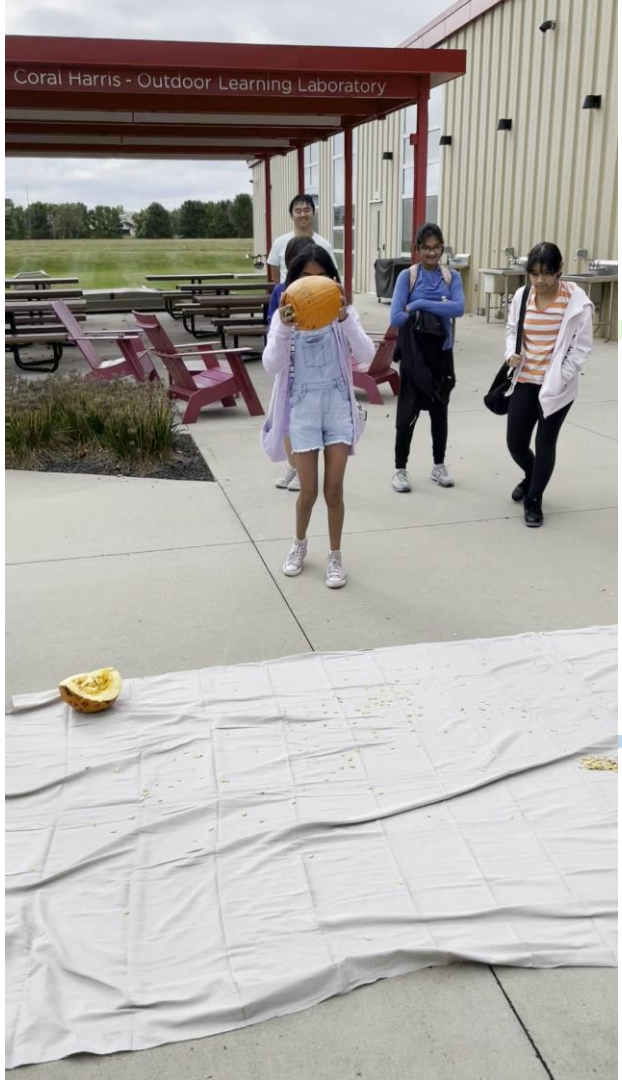
Making STEM fun



Making STEM for everyone

Everyone means *everyone*

Diversity comes from *connections*



Ashley Holcomb

Stir Trek 2024

Contact GWC Otterbein:
gwcotterbein@gmail.com

Contact speaker:
afholcomb72@gmail.com

Follow us on IG: @gwcotterbein

Thank you!

Hard lessons to learn about working with kids

How to fail

All-day events sound better than they are...

Parents are the driving force for kids in extra curriculars

GWC isn't as cool for 16 year olds

Virtual events suck

Every. Volunteer. Counts.

Hilarious lessons

Kids love to smash stuff

“Taxes”

Free t-shirts for volunteers

Handing kids trash

Lemonade experiment

Beyond the Classroom