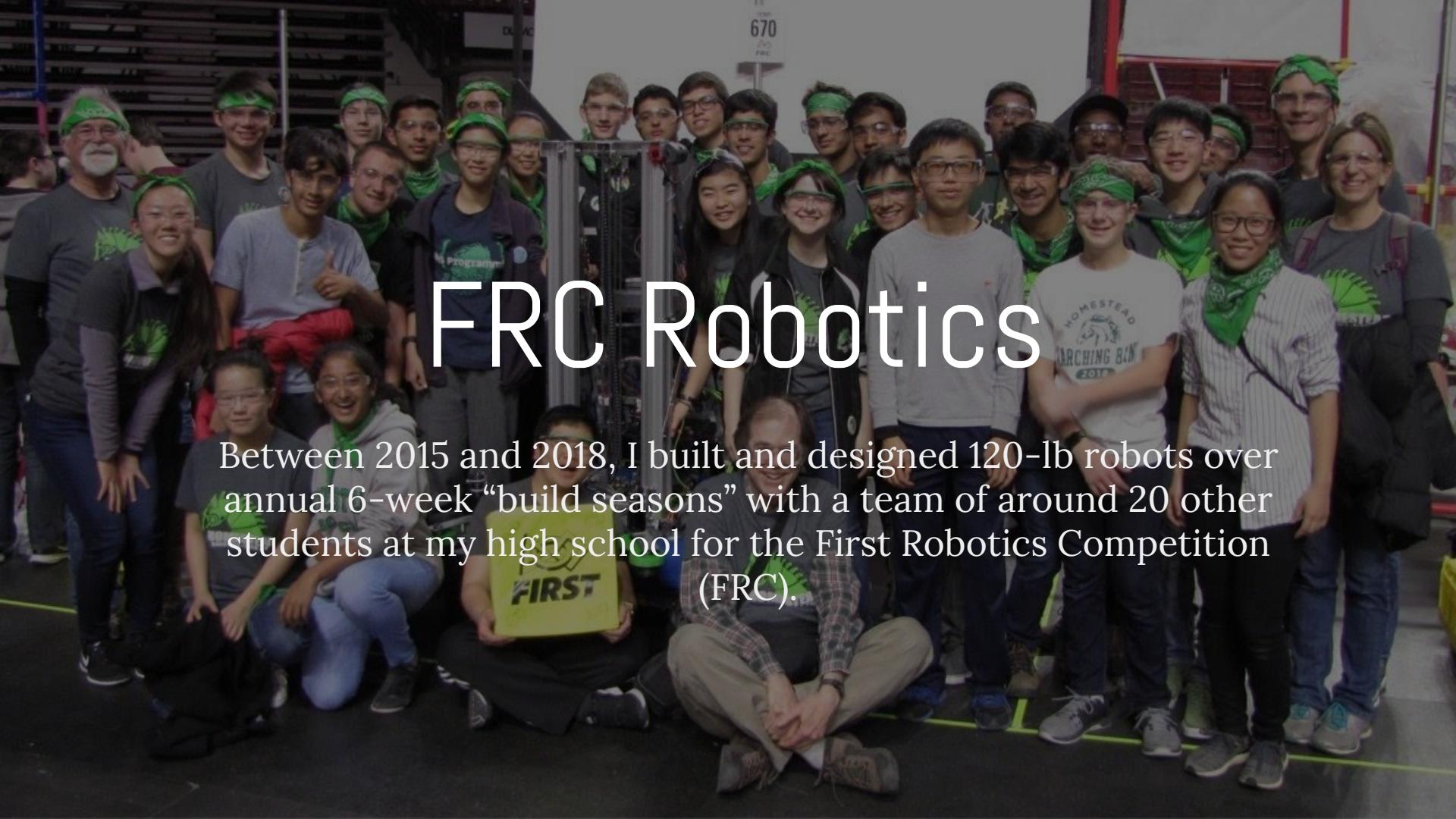


Hi, My name is Allison Moore.

These are some projects I've worked on!

A group photograph of a FRC robotics team. In the foreground, several team members are kneeling or sitting on the floor, smiling. One person in the center is holding a yellow sign that says "FIRST". Behind them, a large group of people, including students and adults, are standing in two rows, also smiling. They are all wearing green headbands and safety goggles. In the background, there is a basketball hoop and a sign that reads "670" and "FRC".

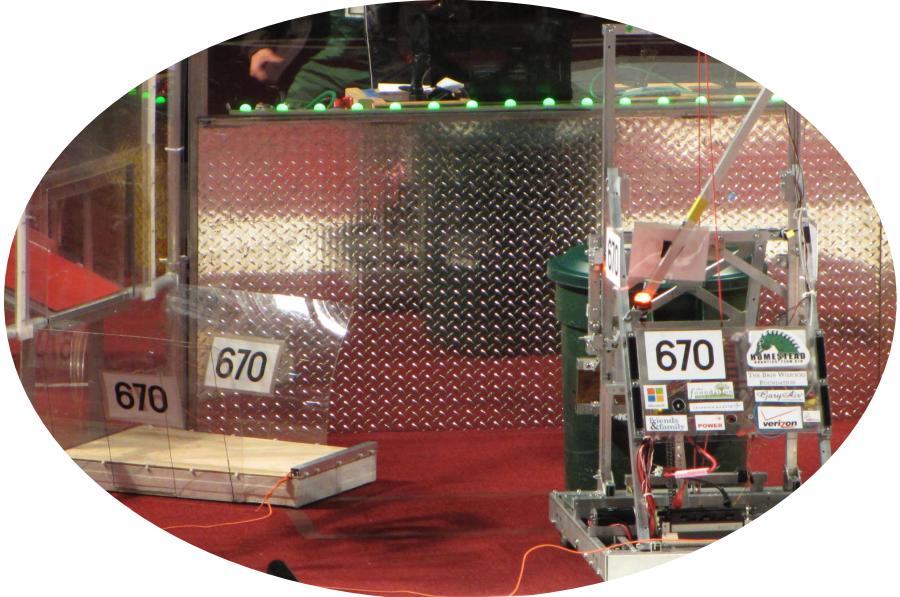
FRC Robotics

Between 2015 and 2018, I built and designed 120-lb robots over annual 6-week “build seasons” with a team of around 20 other students at my high school for the First Robotics Competition (FRC).

2015

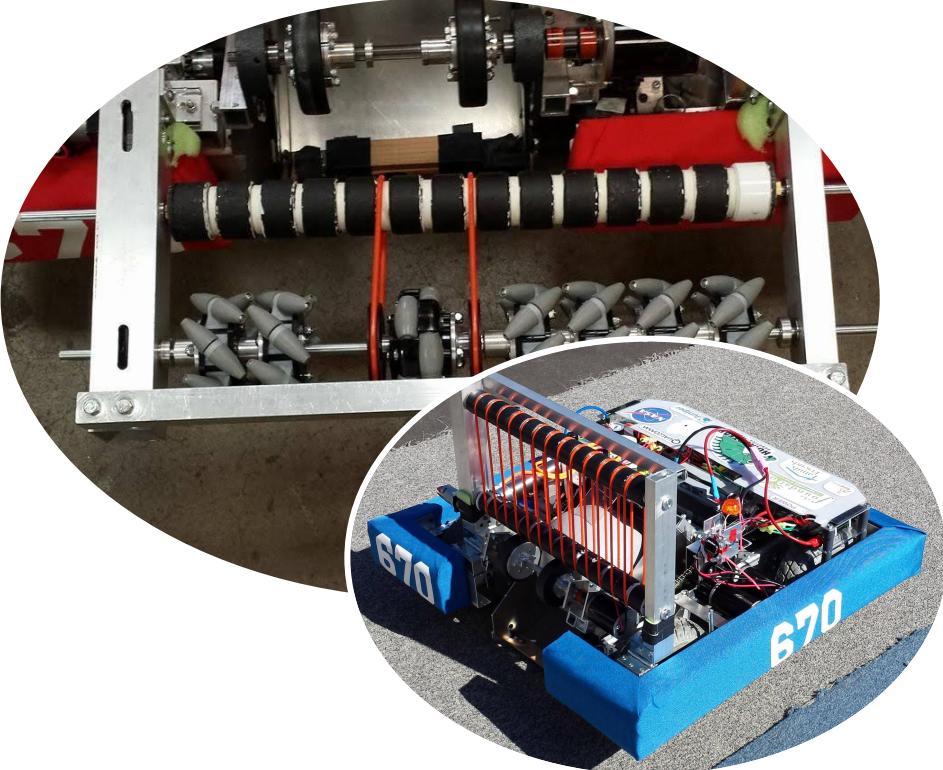
FRC Robot for “Recycle Rush”

This robot was built for the 2016 First Robotics Competition to collect and stack plastic totes and trash cans alongside other teams. It placed 4th out of 56 teams at the 2015 Silicon Valley Regional. Building this was my first experience with robotics and my first time making a extensive time-commitment heavy project with team.



2016 FRC Robot for “Stronghold”

This robot was built the 2016 First Robotics Competition to navigate an obstacle course while collecting and shooting dodgeballs. During this project, I led the fabrication of our robot with a partner. I learned about the implementing designs into physical models when building this robot.



2017

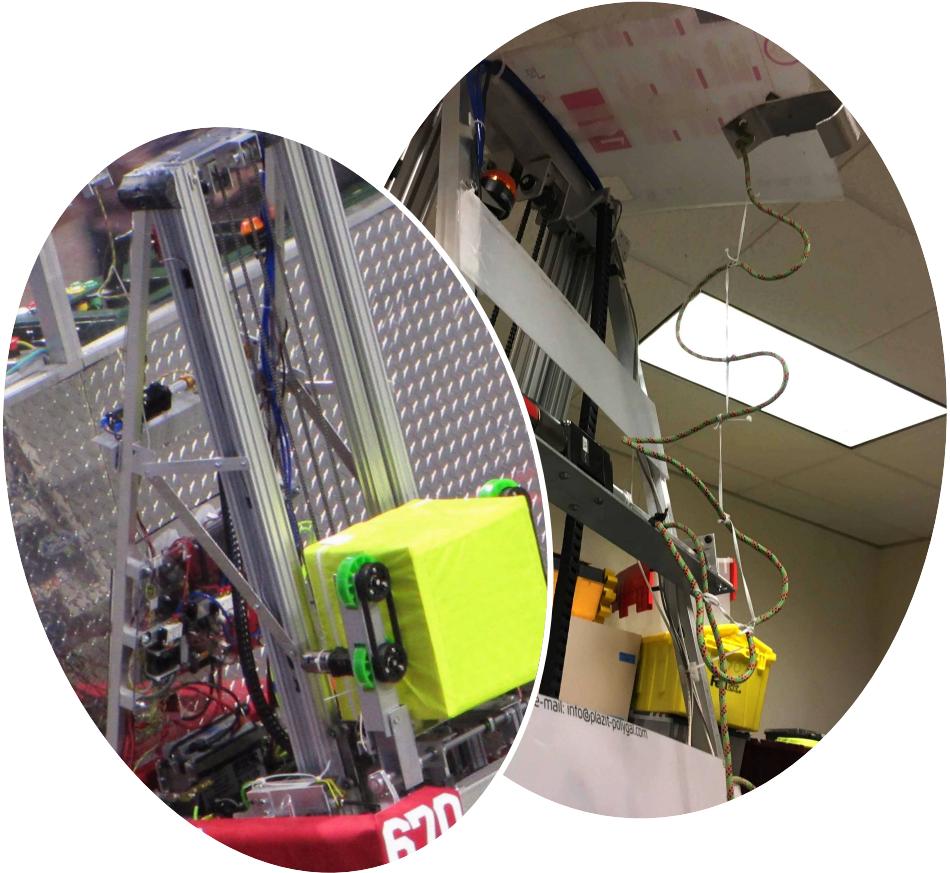
FRC Robot for “Streamworks”

This robot was built the 2016 First Robotics Competition to navigate an obstacle course while collecting and shooting dodgeballs. For this robot, I built the robot's intake mechanism as well as much of the robots body and modeled these systems in CAD. This was my first experience working in CAD and working to design a complex project with a team.



2018 FRC Robot for “PowerUp”

This robot was built for the 2017 First Robotics Competition to stack latex covered cubes on a moving platform and climb alongside other robots on a rung. This robot placed 7th in the 2018 Silicon Valley Regional out of 60 teams, 3rd at CalGames 2018 out of 38 teams, and was a regional finalist at the 2018 Utah regional. I built the climbing mechanism for our robot and ran the Mechanical Design team with a partner.



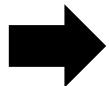
Video of my team's 2018 robot for
FRC "Power-Up" during a test run.

HP Labs

In 2017, I interned with the Immersive Experiences Lab (IXL) to study the applications of 3D printing and customization in clothing. Over the summer, I developed prototype customizable objects and conducted a qualitative study on user reactions. I also worked independently on a project exploring the idea of comfort/nonverbal communication through wearable technology.



Ideation



Low-Fidelity Mockups



Consumer Study

2017 Ideation and Case Studies

I conducted several case studies to investigate how individuals used existing clothing options/customization to express themselves.



2017 Low-Fidelity Prototypes

Created Mock-Ups of customizable printed clothing concepts based on case studies.



2017 High-Fidelity Prototypes

Refined Low-Fidelity models into custom printed buttons, watches, and jewelry used in a user study to measure participant reactions to printed and 3D printed customizable fashion.



HP Labs

3D Print Watch Covers



3D Print Pins and Studs



Fabric Print Watch Bands



3D Print Patterned Buttons



Photo Album Jewelry

Band-Aids, Eyebrows,
Press-on Nails, and Makeup



Patterned Shoe Soles



Printing for Self-Expression

Allison Moore
HP Labs Immersive Experiences
IXL Intern

Homestead High School
NA
June 2018



Project 11 Participant User Study 1 Hour Per Participant

8 Customizers

1st Half: Discuss style & customization

3 Non-Customizers

2nd Half: Participants react to props modeling potential customized products.

Process

Brainstorm forms of self-expression/customization

Low-fidelity models of printing applications in customization

Outline user study recruiting requirements

Create higher quality probes for user study

Finalize user study format and questions

Products

Buttons: Everyone wears buttons. Their modularity, commonality, and diversity of appearance provide a good outlet for customization.



Early models focused on color & pattern.



Later buttons varied by shape.

Books Charms:

Wearable personalized photobooks offer a more direct approach to customization that explores how sentimental value might be kept in mass-produced items.



Final Models



Initial Concept

Watch Covers & Bands:

With phones and smart watches, traditional timepieces are becoming less functionally necessary. To compensate for this, customization and the addition of new components to watches, like covers and patterned bands, could increase their aesthetic value.



Initial Concept



CAD models



Watch Cover illuminates to show time.



Watchband probe with patterned fabric.

Participants

Participants Chose to Explore in Depth (Positive Reaction)



"Watches, I really like the watches; you got to do something other than a watch it's got to be a fashion accessory." -Ronnie R.



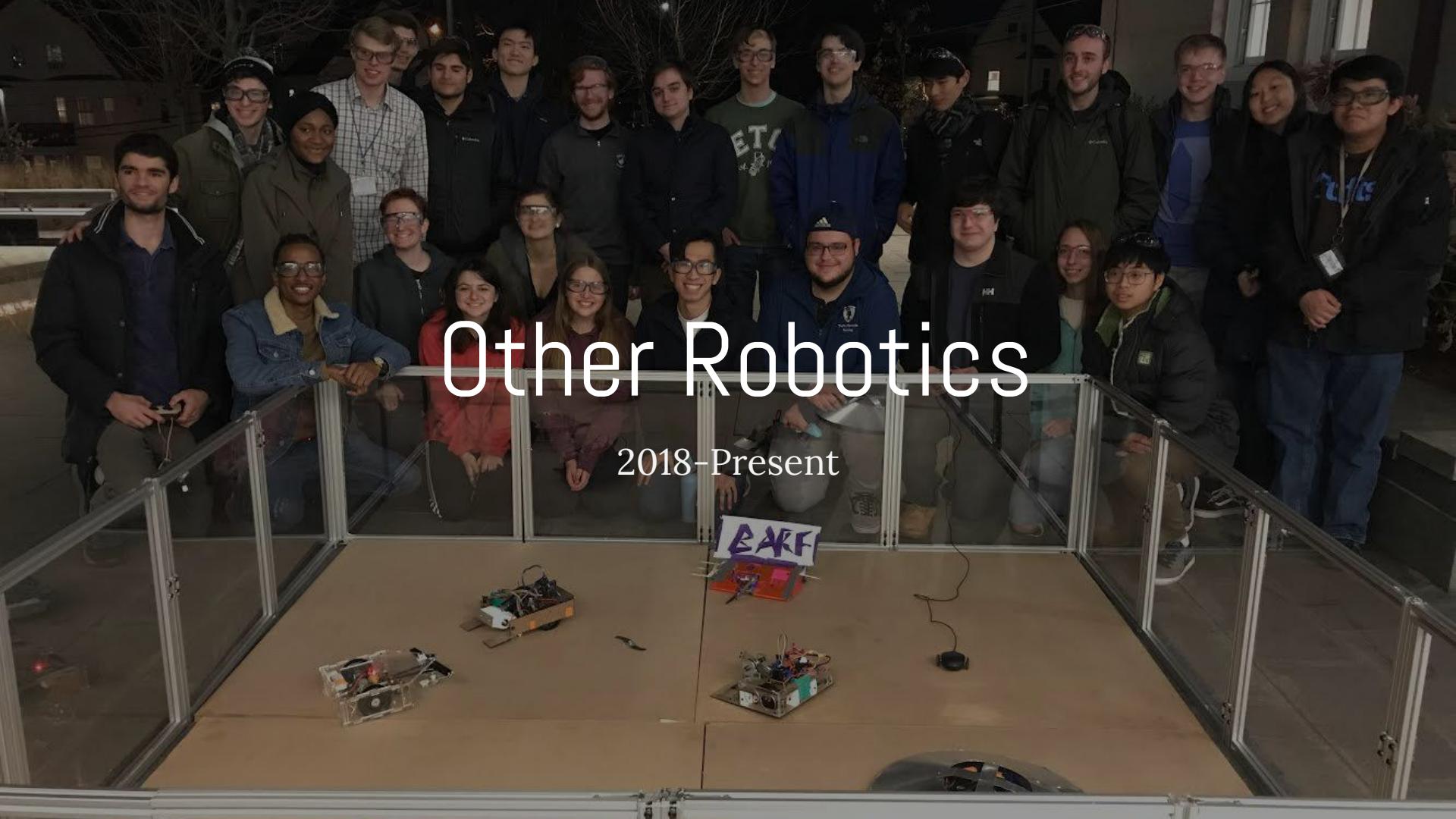
"Buttons - everyone should have swappable buttons" -Rochelle U.



"I am trying to adjust to a more neutral American style. I feel really awkward in my clothing. It's an important part of my cultural identity, who I am" -Nehel K.



"With dressing I'm able to express myself without saying a word." -Marinda T.



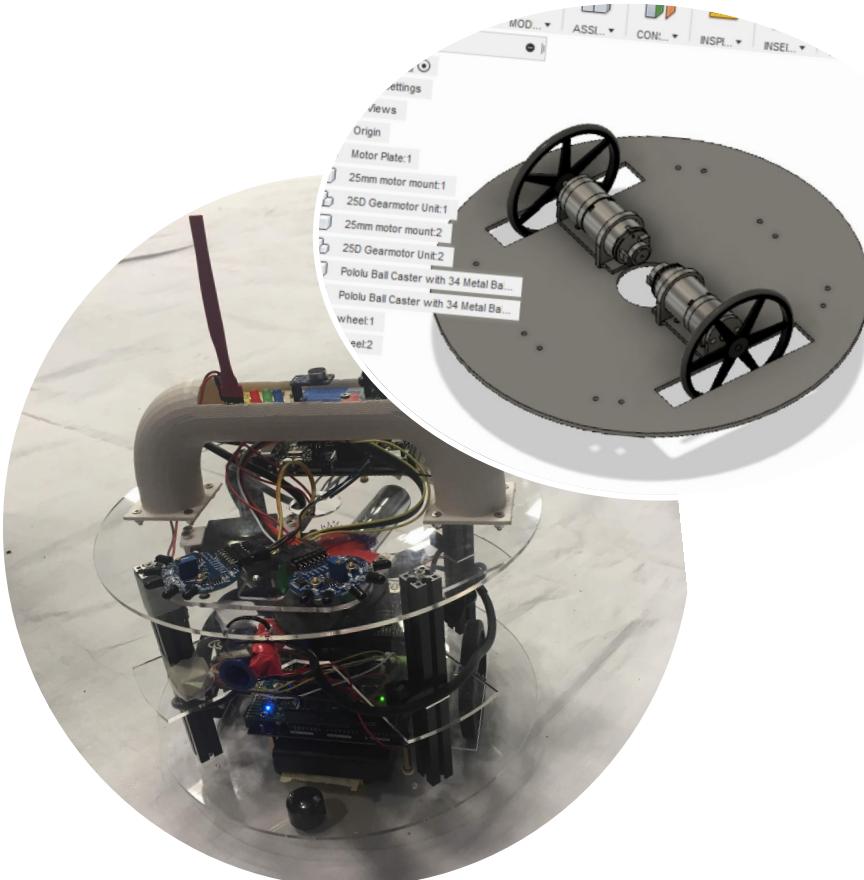
Other Robotics

2018-Present

2019

Trinity Firefighting

In Winter 2019, I worked with a partner to create the mechanical design aspects of a robot that could track and blow out flames for the Trinity Fire Fighting Robotics Competition.

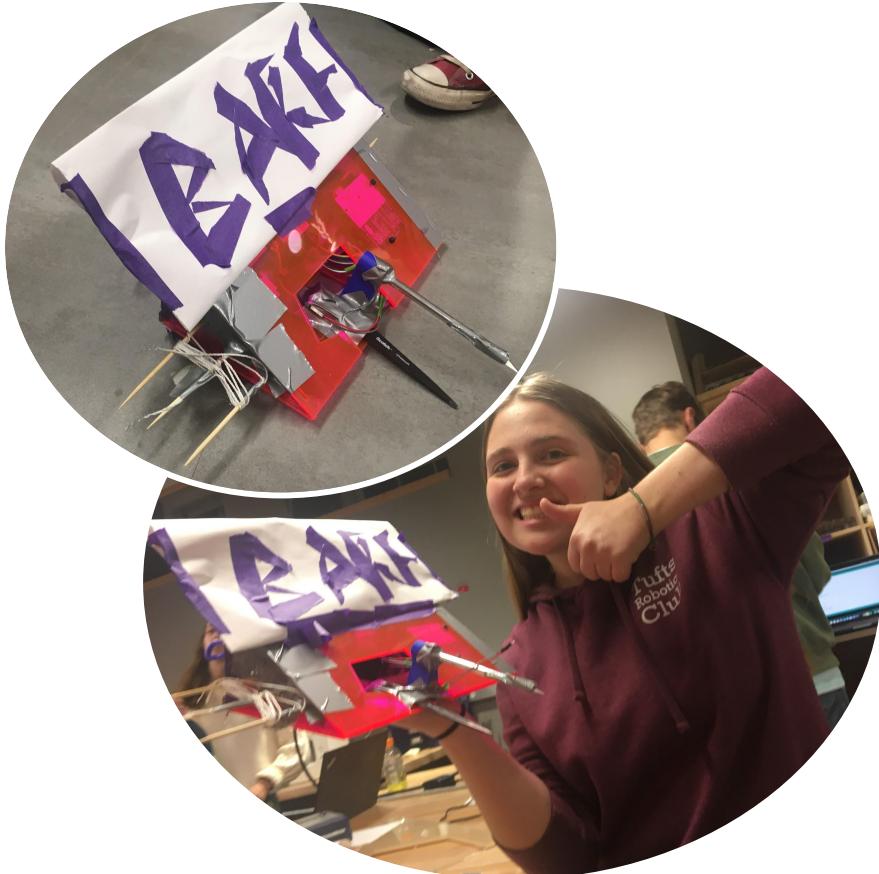


Video of Trinity robot tracking
candle flame.

2019

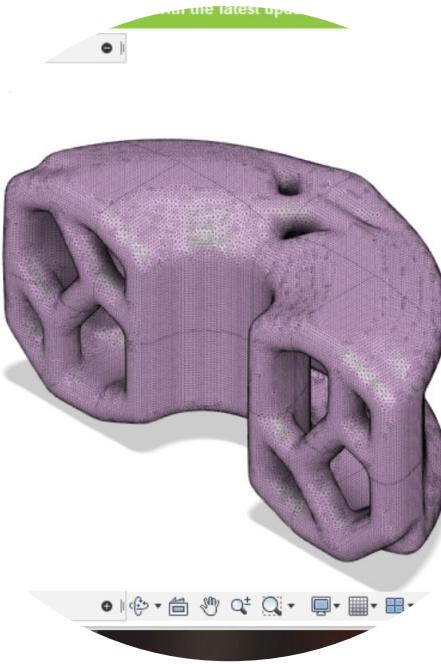
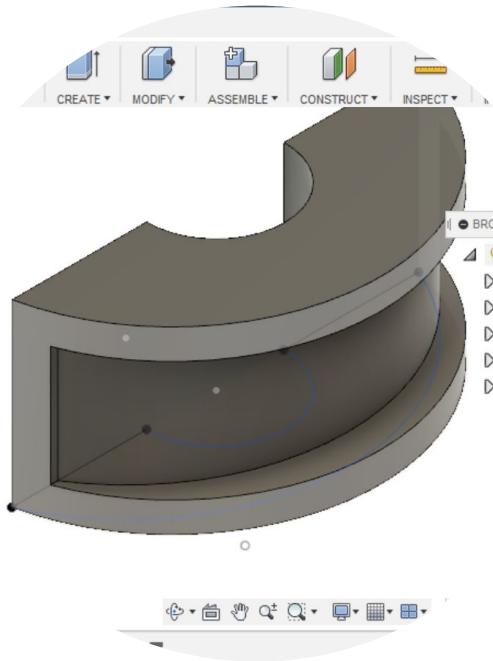
Battle Bot

As a short project this fall, I worked with a team of four to create a battlebot from scratch to fight robots built by other students at Tufts University. I CADed, 3D printed, laser cut, and assembled the mechanical aspects of this robot.



Recent CAD

2018-Present



2018 Generative Bridges

In Fall 2018, I spent some time exploring the strength applications of generative design in truss and arched bridges using AutoDesks Fusion and MeshMixer.

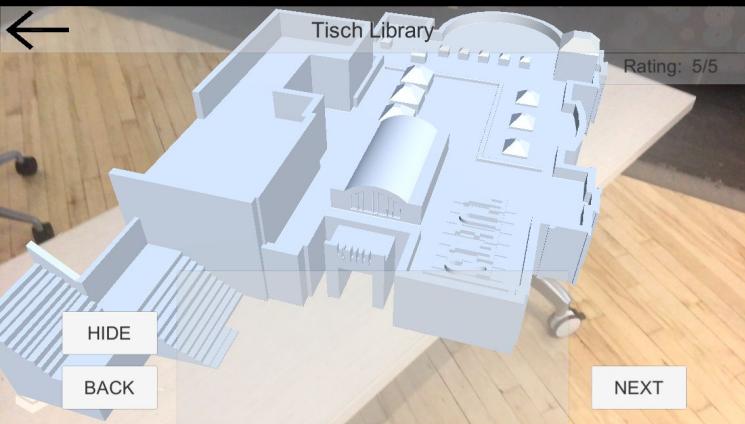
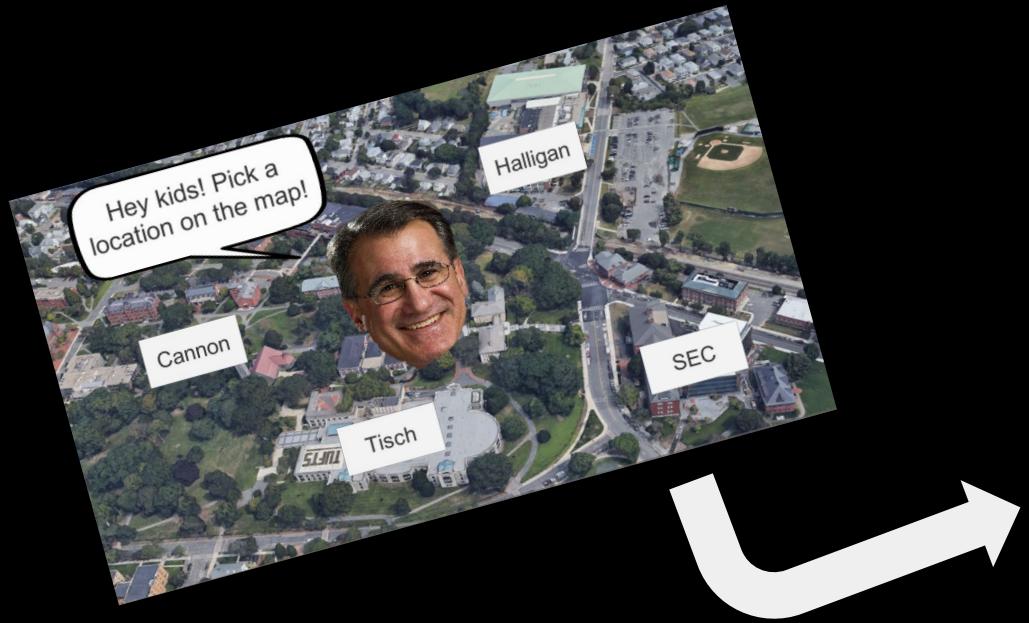
2019

Tufts AR

I built an Augmented Reality (AR) Unity app mapping the Tufts University campus over 24 hours at Tufts Polyhacks 2019 with a 5 person team. Users could leave reviews to appear alongside CAD building models in the app. I created 3D building models in Autodesk Fusion and built the website in HTML/CSS. This project won the Trip Advisor award for best use of Travel API.

Project Presentation: <https://bit.ly/393Y2rh>

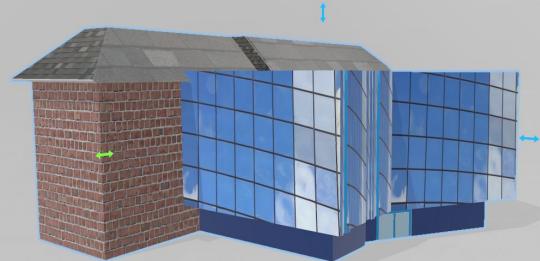




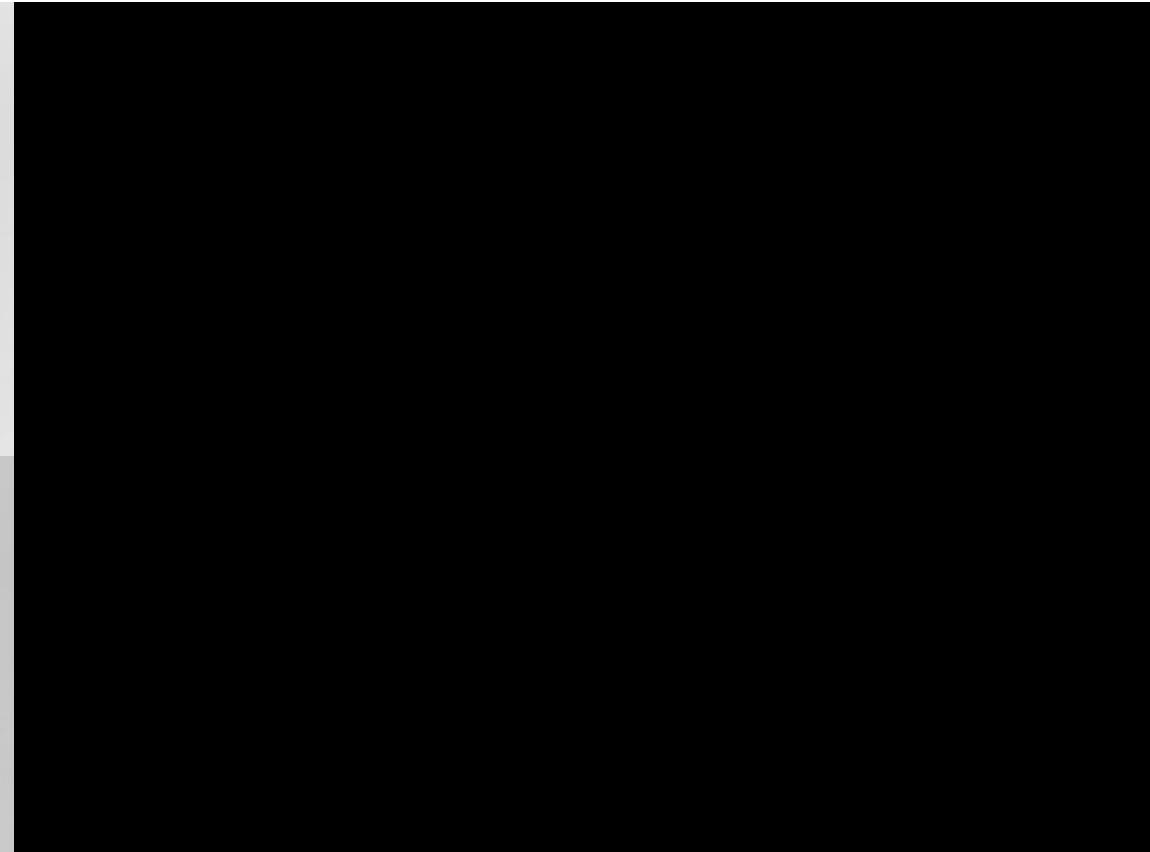
Users could pick from a variety of locations on the Tufts campus to view an AR model of a Tufts building or characteristic location.



■ x 0.37 y -1.37 z 3657.6 in



■ x 0.37 y -1.37 z 3657.6 in



2019
3DS Max Renderings
and Animation

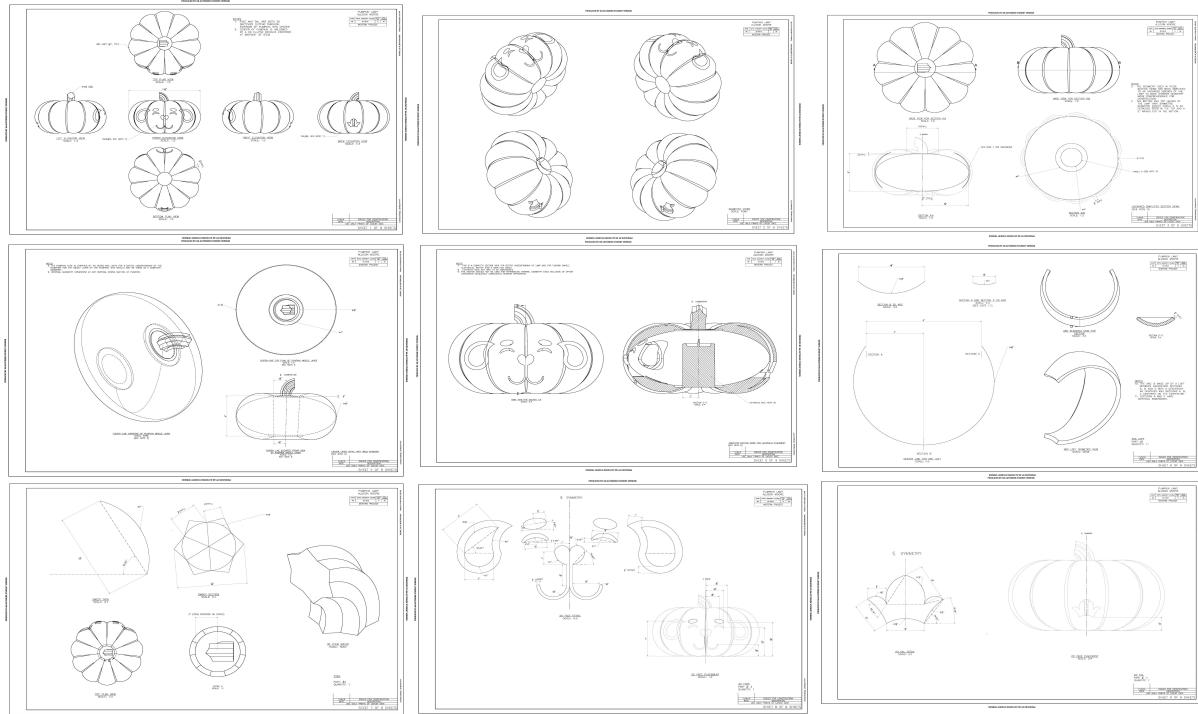


Animation created and rendered in 3Ds Max using a Biped skeleton for character movement. All models for this animation were built in Inventor.



2019
Pumpkin Lamp





Complete set of engineering drawings for pumpkin lamp.



Johnny No Graves & The Cash Cowboys

A Johnny Cash Cover Band

Select Genre:

WEB PROGRAMMING

-----*Setlist*-----
2019-Present

(Ghost) Riders in the Sky

-Johnny Cash-

-Rockabilly--Rock--Country--Classic Country--Pop--
1979

If I Were a Carpenter

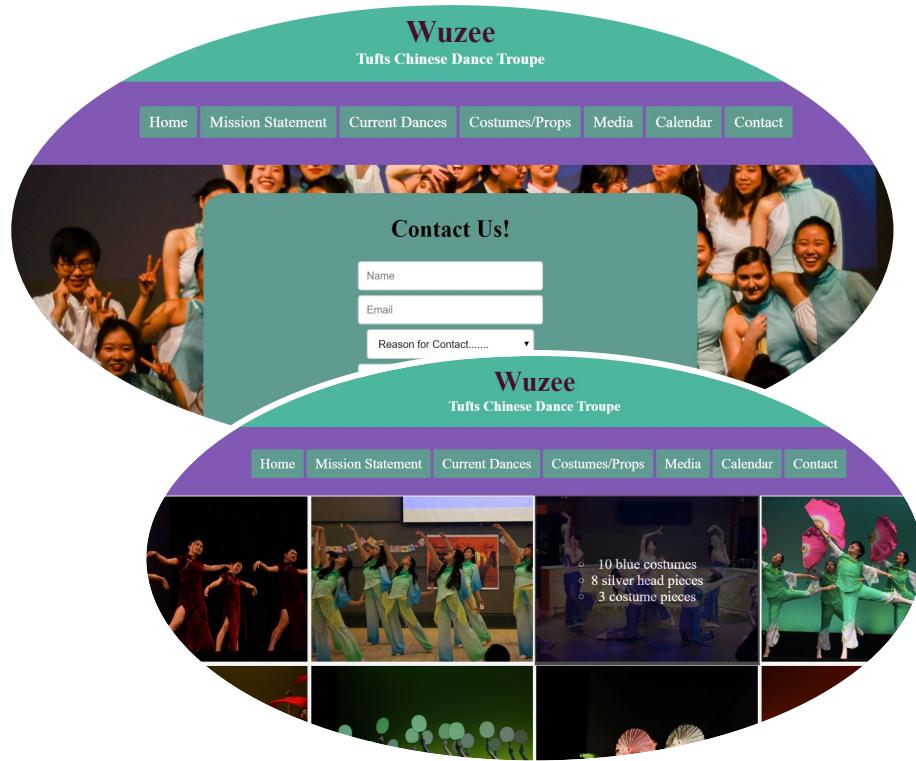
-Johnny Cash--June Carter Cash--Tim Hardin--
-Country--
1968

A Boy Named Sue

2019 Wuzee Website

Built updated website for Chinese Fusion Dance group at my university with a team of three others over the course of two weeks.

<https://rlee5674.github.io/TuftsWuzee/media.html>



2019

Tufts Dining Hacks

Built front and backend of website for students to submit on-campus dining alternatives over three weeks with a team of 3 people. Used MongoDB, Git, CSS, JS, HTML, and Heroku.

<https://rlee5674.github.io/Dining/>



Web Design



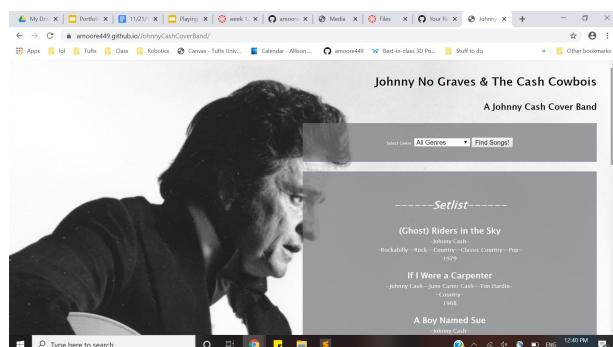
Mock business website to practice HTML/CSS,

<https://amoore449.github.io/DJ-Roomba/>



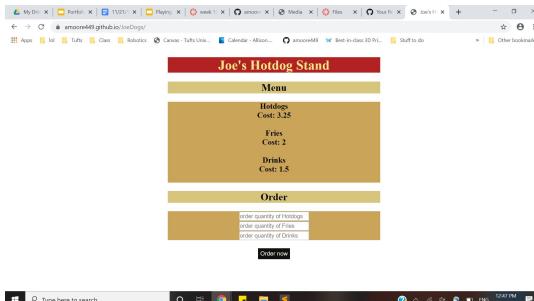
One-page website for practice with XML.

<https://amoore449.github.io/HW2b/>



Website for Johnny Cash Cover band using JSON parsing

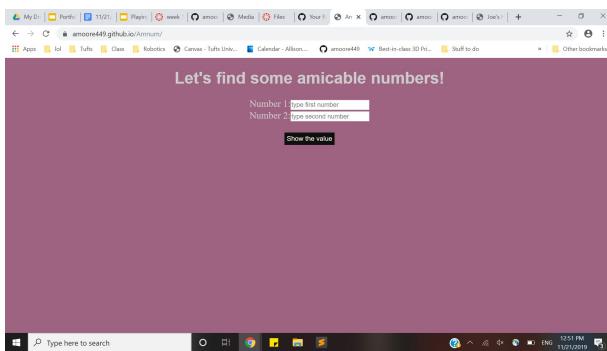
<https://amoore449.github.io/JohnnyCashCoverBand/>



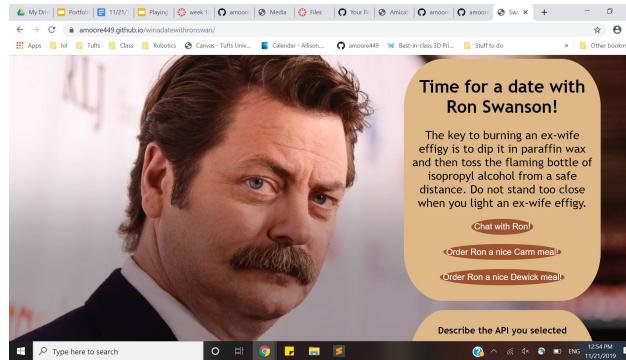
One-page website for practice with Javascript.

<https://amoore449.github.io/JoeDogs/>

Web Design



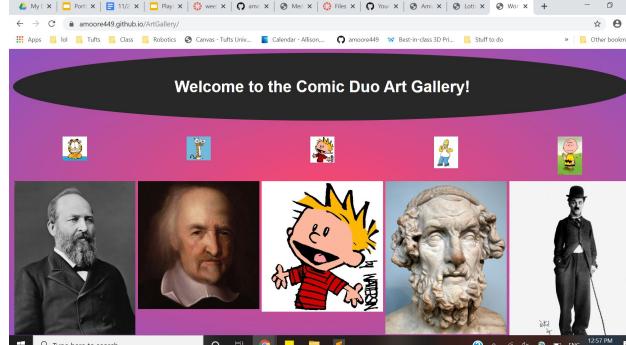
One-page website for practice with Javascript.
<https://amoore449.github.io/Amnum/>



One-page website for practice with API use.
<https://amoore449.github.io/winadatewithronswan/>



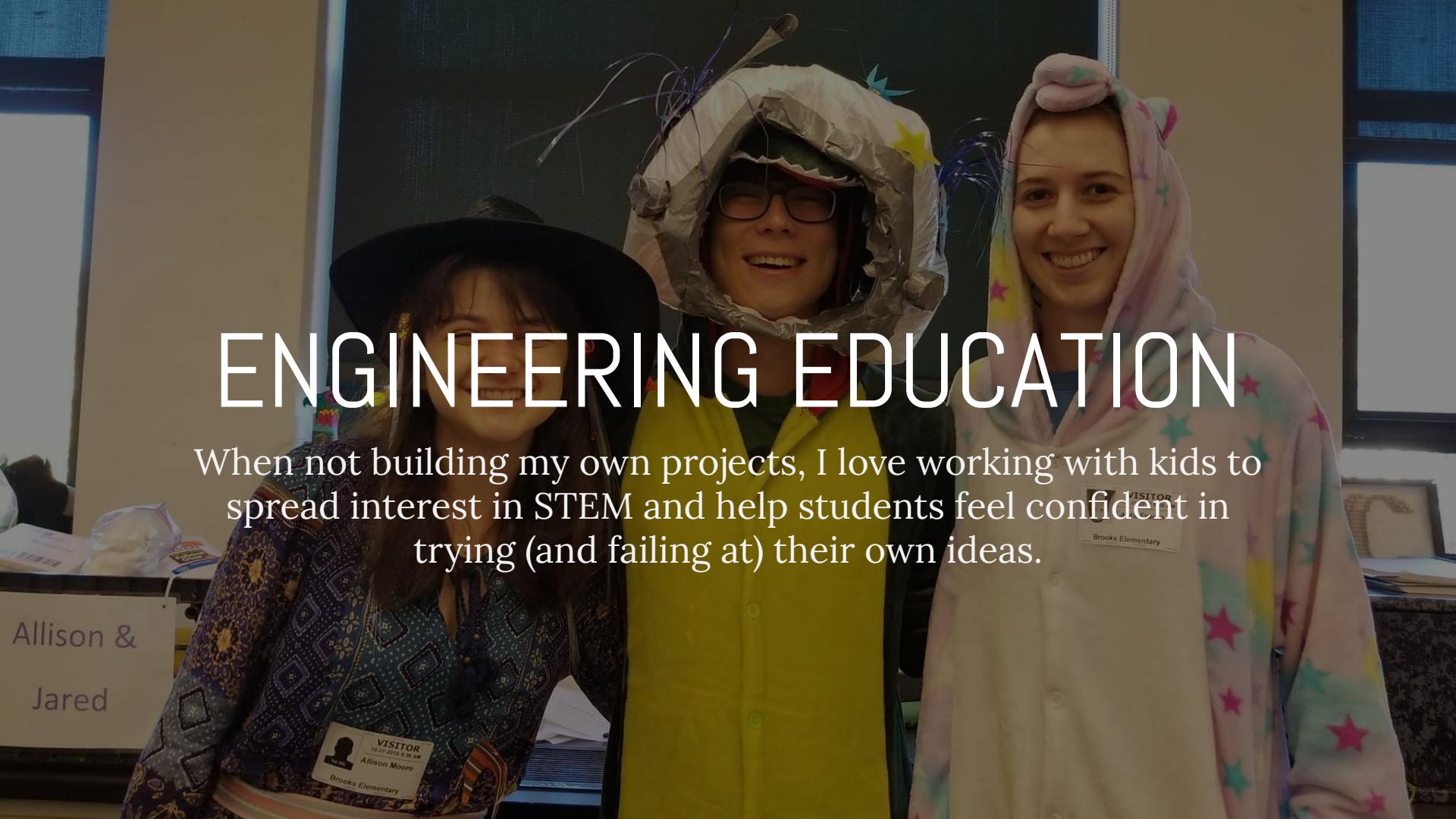
One-page website for practice with Javascript.
<https://amoore449.github.io/LuckyBall/>



One-page website for practice with JQuery..
<https://amoore449.github.io/ArtGallery/>

ENGINEERING EDUCATION

When not building my own projects, I love working with kids to spread interest in STEM and help students feel confident in trying (and failing at) their own ideas.



2018-Present

Tufts STOMP

Tufts Student Teacher Outreach Mentorship Program

I design and teach engineering curriculum for elementary school students through the Tufts STOMP program. I have worked in 5 classrooms over one and a half years. Curriculum can span from electricity to coding to found materials building to 3D Printing.



2019

Camp Galileo

Over the summer I worked as a Team Leader teaching growth mindset project thinking through Camp Galileo. I worked from around 7:30am to 6pm leading teams of 15-20 campers through art, science, and outdoors activities.

