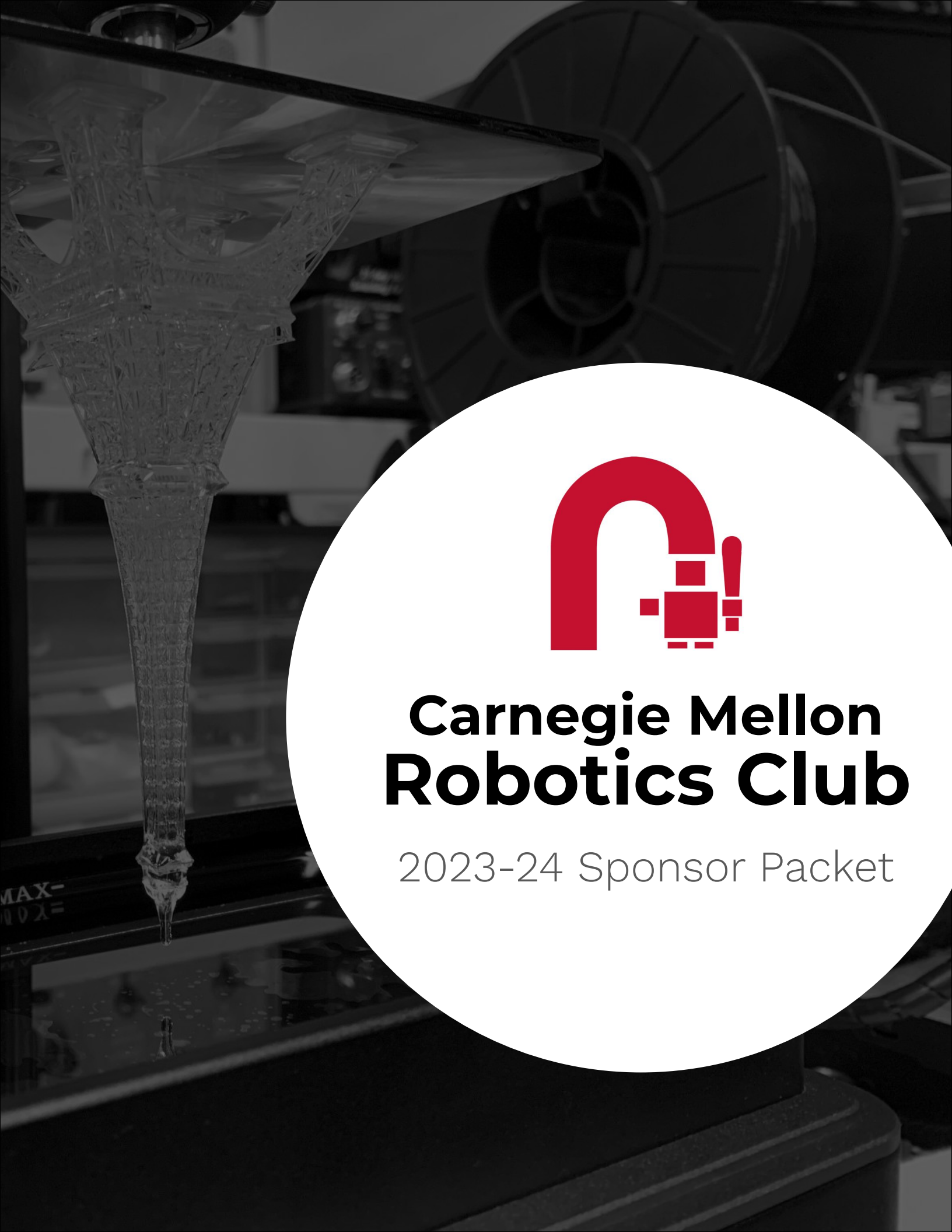
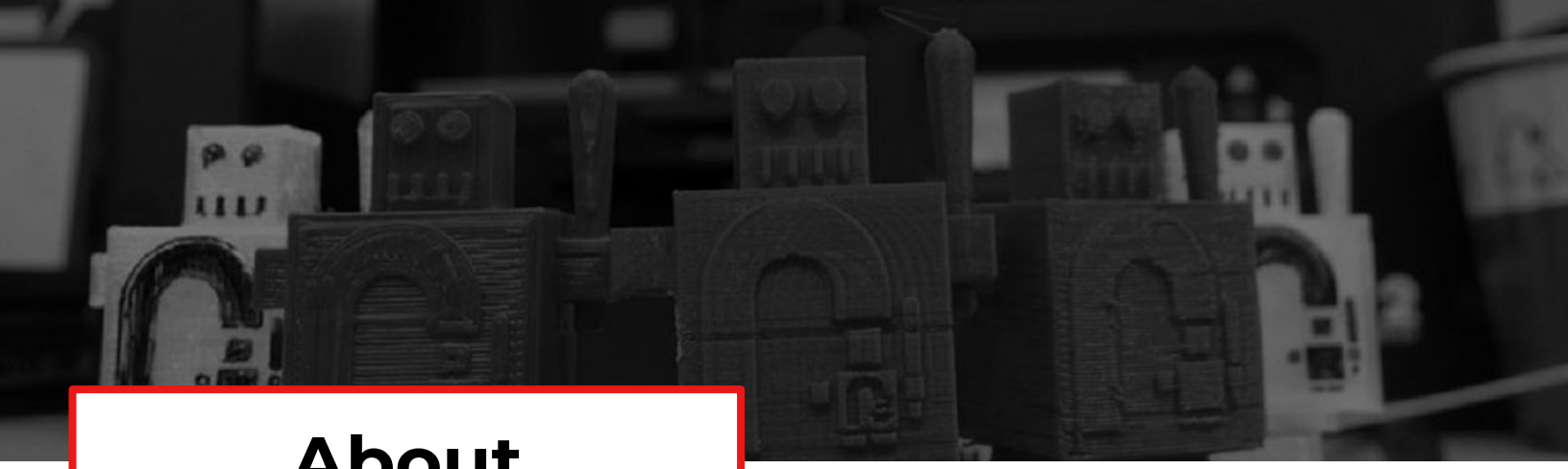


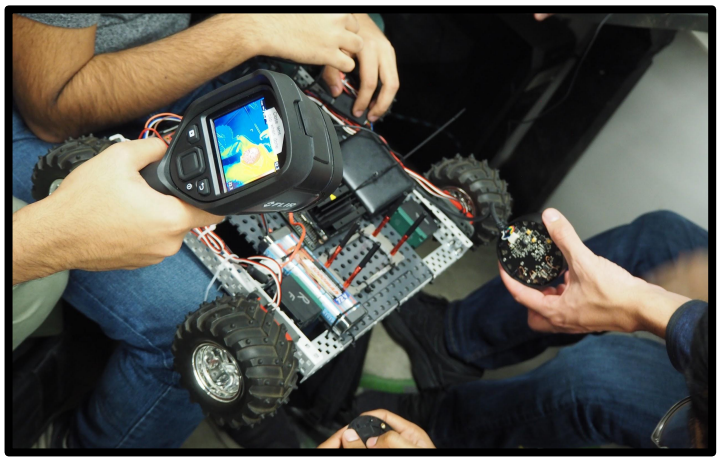
Carnegie Mellon Robotics Club

2023-24 Sponsor Packet

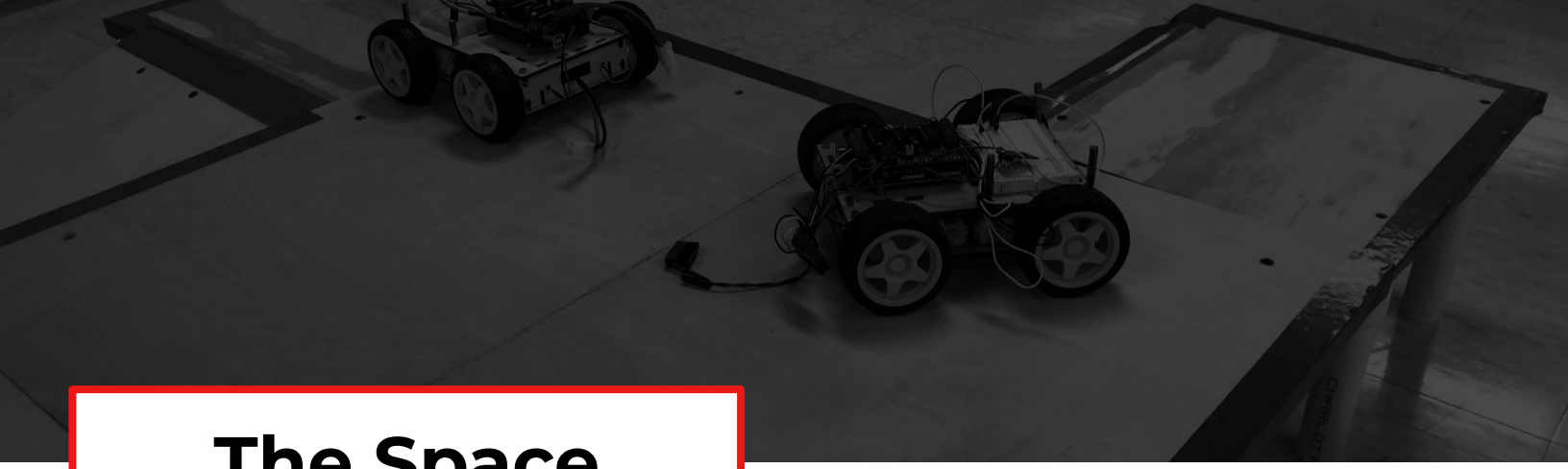


About

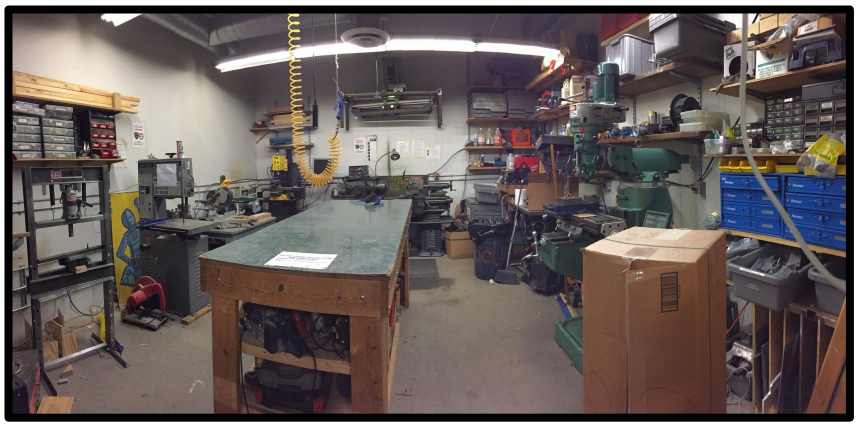
The Carnegie Mellon Robotics Club is a student-run maker and hacker space founded in 1984. The club serves students and faculty in the Greater Pittsburgh area, and is predominantly composed of CMU undergraduate students. We currently have over 200 members, all of whom share a love for making in its many forms—especially robots! We strive to provide as many resources as possible for our members, including our own student-run machine shop, computer cluster, 3D printers, laser cutter, and a sizeable electronics stock. Anything that isn't available can often be purchased through club funding, or our student project grant program.



We are proud to say that there is no minimum level of experience or knowledge required to join the club. Our members are all here creating robots with a passion, fueled by personal interest and the desire to learn and work together on high-level projects. We're more than happy to share our projects, experiences, and resources with anyone with a willingness to learn. After all, robots are great and we always need more people to create our new robot overlords!



The Space



Shop

Wood/metal shop, including a mill, lathe, table saw, and CNC router

Makerspace

3D printers (FDM and SLA), laser cutter

Electronics

Soldering station, electronics bench with assorted equipment, through-hole and SMD components inventory

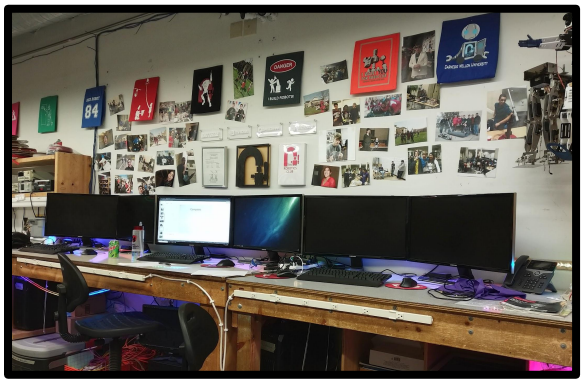
The Space

Parts

Raw material (wood, acrylic), components (motors, power supplies, etc), Arduinos, Raspberry Pis, various sensors

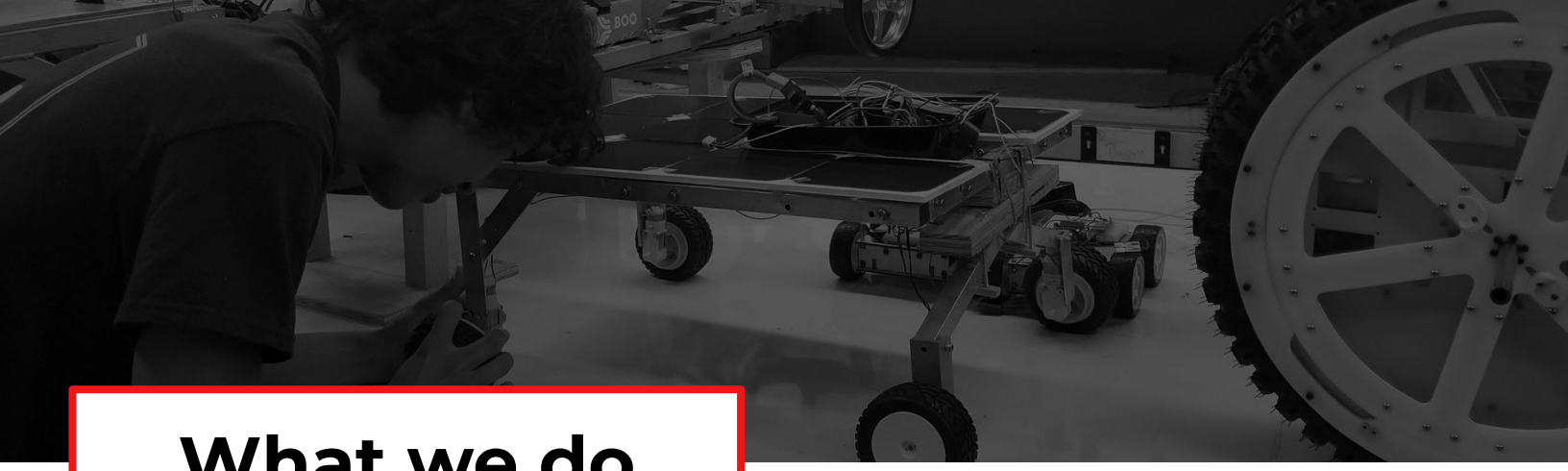
Computers

Windows/Linux machines with GPUs and common engineering tools/software



Social space

Collaboration/networking, for club-sponsored events and project meetings

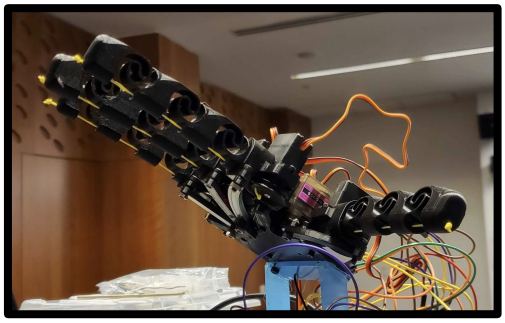


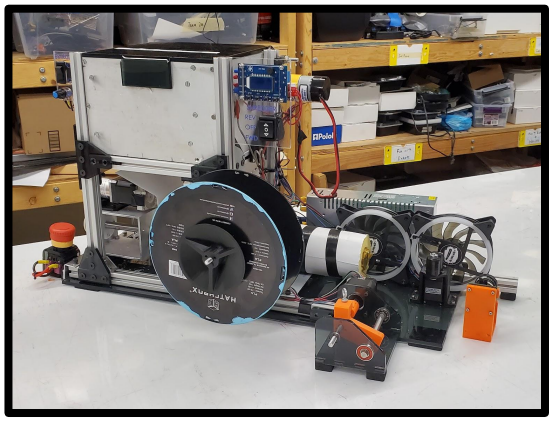
What we do

Club-sponsored projects

Prosthetics

This club project focuses on prosthetic hand research and development. The team has built some single-finger prototypes of different mechanisms, and is currently extending this work to build a full hand.



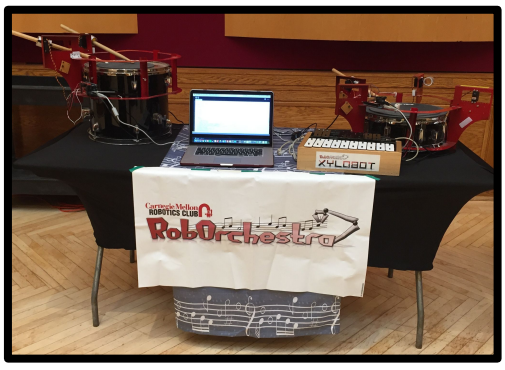


ReFilament

Originally a MechE capstone project, the primary goal of the ReFilament is to recycle scraps and supports from previous 3D prints into usable PLA filament. The ReFilament is split into three different processes: shredding, melting, and extruding, which all seamlessly integrate into a single automated track.

RobOrchestra

RobOrchestra designs, builds, and programs robots that read music from MIDI data in order to put on musical performances. The goal is to create a full robotic orchestra that is able to play from existing files and "improvise" in real time based off of algorithms developed by the team.

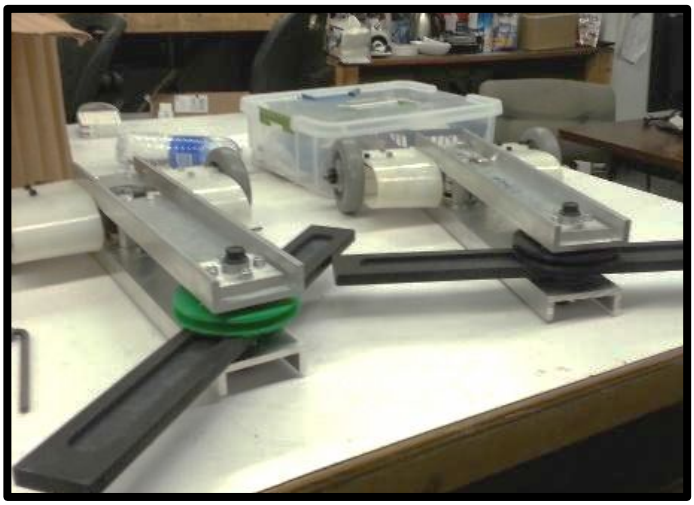


What we do

Club-sponsored projects

RoboBuggy

Buggy is an annual soapbox-derby-style race and a century-old tradition at Carnegie Mellon. Teams push a gravity-powered vehicle (buggy) containing a human driver around a 0.84 mile course. RoboBuggy, founded in 2013, is the first buggy team to defy the status quo by building an autonomous buggy that has successfully navigated the entire course without any human control. The goal of this project is to introduce members to self-driving concepts and learn how to build reliable physical systems.



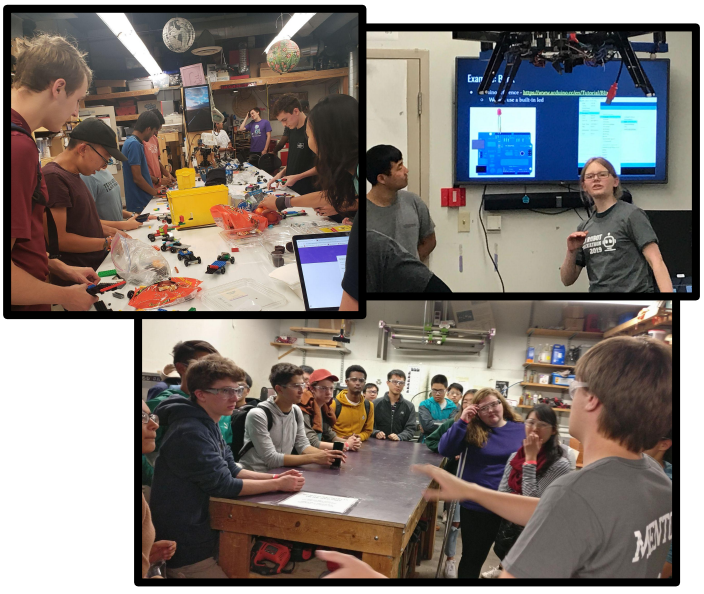
Combat Robotics

Carnegie Mellon Combat Robotics is CMU's first combat robotics team, open to all CMU Roboclub members. The team builds a 12 lb combat robot to compete at NHRL (Norwalk Havoc Robotics League) in the Spring, with qualification rounds in November. The team utilizes materials science, advanced mechanical engineering, and robust electrical systems to ensure a strong robot with a devastating bite.

What we do

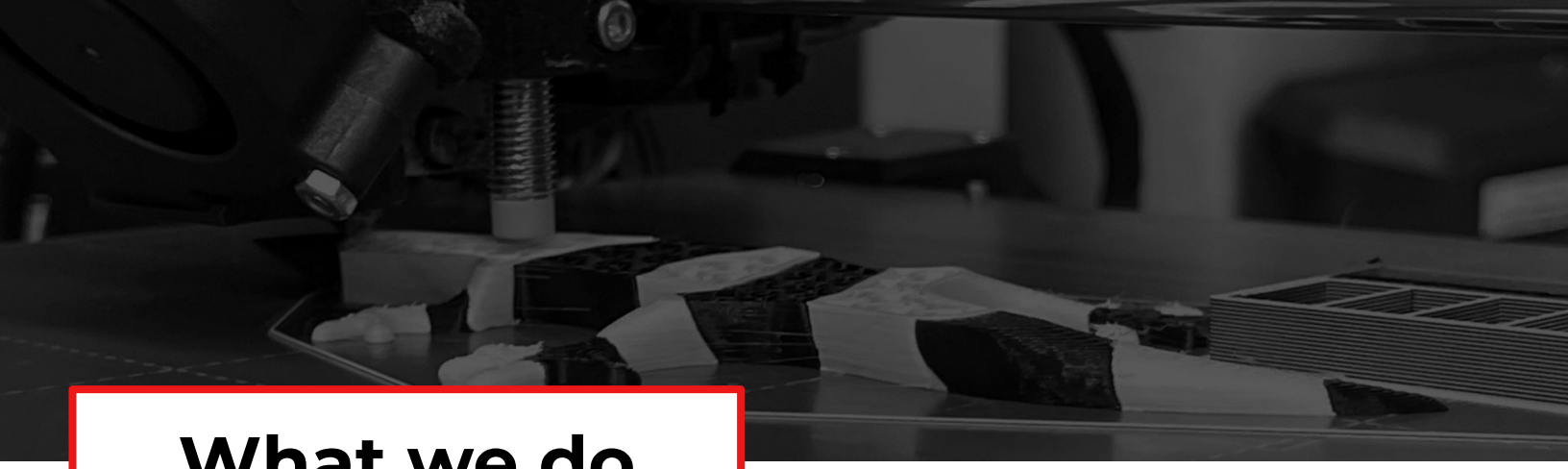
Small Helpful Research Grants (SHRG)

Members of the club can apply for Small Helpful Research Grants (SHRGs). These can be either individual or team projects that are personally or research-motivated. Past projects have included a quadruped robot, autonomous RC car, high-power model rocket, archery robot, and DIY hydroponics.



Workshops

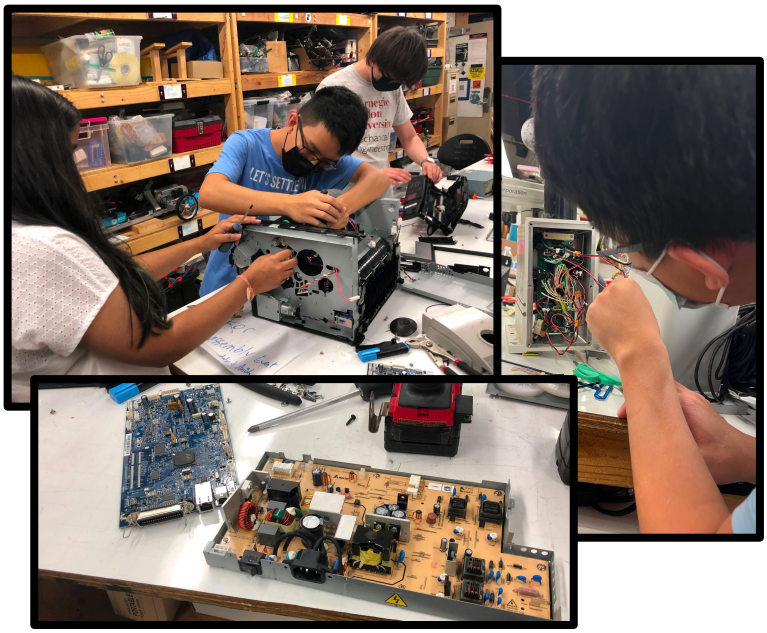
Workshops are held by the Training Officer, and occasionally by other officers for special topics. These sessions help new members become more experienced and confident in key skills and topics. Popular training sessions teach Arduino coding, PID control, circuitry, Solidworks, and soldering. We also have shop trainings to introduce members to equipment and safety practices.



What we do

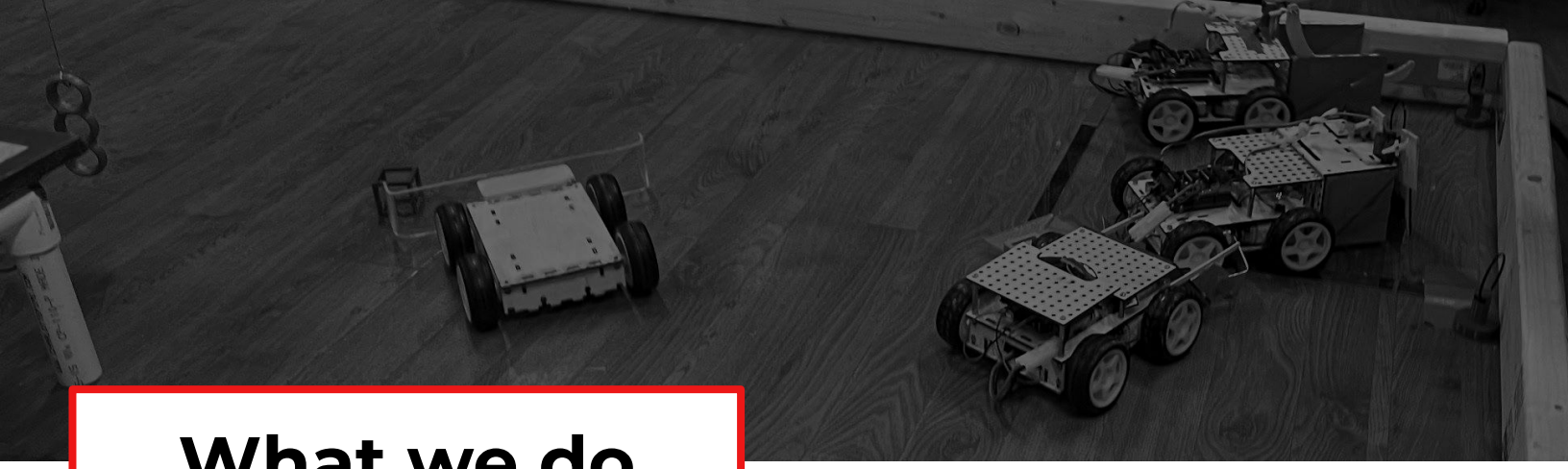
Fun with Robots

This is a Student Taught Course that is instructed by Robotics Club members. The course introduces students to robotics concepts and Arduino programming through lectures and labs. Students complete challenges like making a robot dance, locate and move towards light, and follow a track.



Garbage Hackathon

During this event, participants are provided with an assortment of used electronic devices, and they are tasked to rework them into something cool by the end of the day! This event is open to Roboclub members of any background, and there will be prizes for the most impressive creations! Sponsors can get involved by giving talks, meeting hackers, and judging their creations!



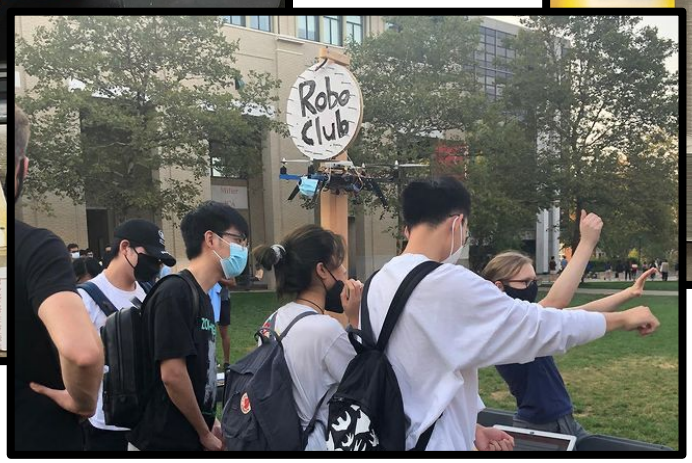
What we do

Red Robot Hackathon

The Red Robot Hackathon is a beginner-friendly robotics hackathon hosted by the CMU Robotics Club during fall mid-semester break. Over the course of 36 hours, we aim to foster a love for hacking in all attendees, regardless of their prior experience. Each team receives a kit with basic assembly instructions, but they are encouraged to modify the robot to suit their goals. The tournament theme changes every time, including games like Scrabble, obstacle courses, Quidditch, treasure hunting, and soccer. Last year, we had over 60 participants, 15+ mentors, and ~$1,000 in prizes!

Why support us?

Sponsoring the Robotics Club is a great way to engage with a select group of passionate, highly motivated students at Carnegie Mellon who love building cool things. We want to help make available to our members a wide variety of internship and career opportunities. Our members are constantly exposed to and engaged in real world engineering design using many of the tools provided by our sponsors, and are some of the best Carnegie Mellon has to offer. The opportunities above offer a number of ways to become involved with our members, but there are many more things we can do to increase exposure, some of which are listed on the next page along with other signs of our appreciation.



Sponsorship Levels

	Friends of Roboclub $500 – $999	**Bronze** $1,000 – $2,499	**Silver** $2,500 – $4,999	**Gold** $5,000 – $9,999	**Title** $10,000+
Size of logo	**S**	**M**	**L**	**XL**	**XL**
Logo on website	✓	✓	✓	✓	✓
Newsletter updates	✓	✓	✓	✓	✓
Logo on club merch		✓	✓	✓	✓
Distribute recruiting materials to members		✓	✓	✓	✓
Access to RoboClub resume book		✓	✓	✓	✓
Invitation to Red Robot and Garbage Hackathons			✓	✓	✓
Members-only recruiting events/tech talks				✓	✓
Title-sponsor RoboClub & Red Robot Hackathon					✓

Silver and higher sponsorship tiers are available to monetary sponsor donations only, while other tiers can be in the form of cash or in-kind donations of materials. Title sponsorships for the Red Robot Hackathon are available first-come first-served and include a keynote presentation and/or recruiting event and emphasis on your company in all branding. As always, we're happy to identify and explore the specific options that best suit your company.

CONTACT

https://roboticsclub.org

officers@roboticsclub.org

https://www.instagram.com/cmuroboticsclub