

2024-2025

MASSROBOTICS STEM IMPACT REPORT



Prepared by MassRobotics STEM
<https://www.massrobotics.org/stem/>

MassRobotics **STEM** Mission

MassRobotics STEM empowers the next generation of robotics and physical AI talent by providing pathways that connect students, educators, and communities directly with the state-of-the-art and current tools used by our startups and industry partners.

We build inclusive opportunities that both expand access to STEM education and strengthen the talent pipeline that drives innovation, commercialization, and adoption in robotics.

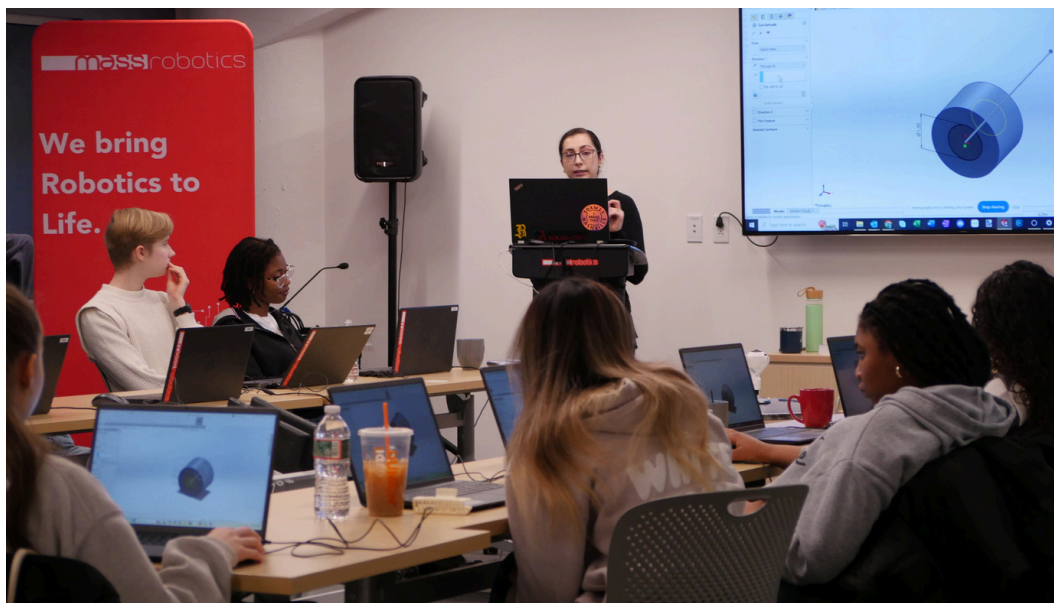
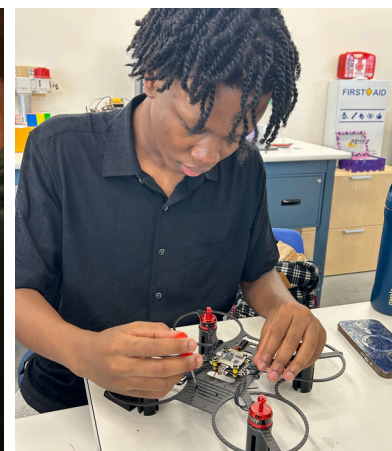


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STEM Champions



MassRobotics Mission

LETTER FROM THE STEM TEAM

This year, we engaged with over 2,000 students through engaging and interactive robotics programs. This is a true testament to the dedication of our team, the passion of our industry partners, and the generosity of the dozens of volunteers who contribute their expertise, resources, and time. Their commitment ensures that students in our programs receive high-quality, impactful experiences that ignite curiosity, foster confidence, and build foundational skills in robotics and technology.

Our programs range from two-hour field trips that spark hands-on discovery to immersive weeklong summer academies, to the Jumpstart Fellowship Program for girls, which includes five months of curriculum leading into summer internships. Our programs are designed to meet high school students where they are and propel them forward.

This report highlights the impact of our programs from September 2024 through August 2025, and we are proud to share the stories of growth, learning, and inspiration that have unfolded.

As we look to the future, we are filled with optimism and enthusiasm. Together with our students, partners, and volunteers, we are building a brighter, more innovative world for the next generation of leaders and problem solvers.



LEARN MORE



[Explore Previous MassRobotics STEM Reports](#)



2025 STEM COMMUNITY STATS



2187

Total students experienced exposure



470

Students at community events
connecting them with the industry



471

Students participated in RobotBlock Party
STEM Day with real-world robots



723

Students experienced hands on STEM
Workshops in MassRobotics STEM lab



523



Out-of-state students hosted in
MassRobotics STEM lab



ANNUAL ROBOT BLOCK PARTY

massrobotics

THE LARGEST CELEBRATION OF ROBOTICS



2017-2024
HIGHLIGHTS

30,000+

BLOCK PARTY
ATTENDEES

400+

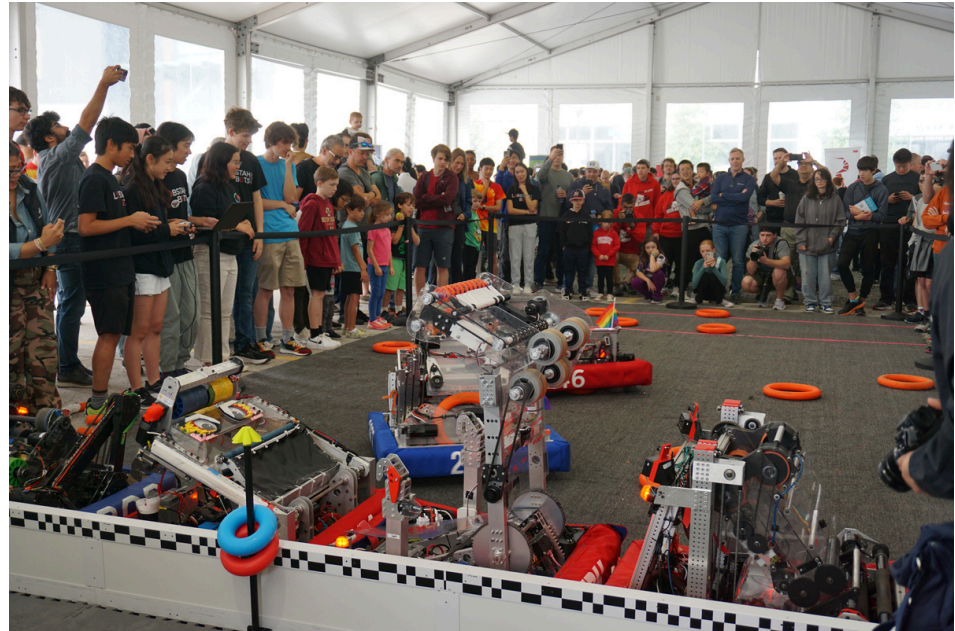
ROBOTS

INSPIRING FUTURE INNOVATORS WHILE EDUCATING
THE PUBLIC ON THE FUTURE OF ROBOTICS

BOSTON CITY HALL PLAZA → SEAPORT, BOSTON

The Annual Robot Block Party has gained momentum and welcomed more than 30,000+ visitors over the past 7 years. It's grown to be known as RoboBoston and is a celebration showcasing universities, startups, companies, and student teams with cutting-edge robotics, Physical AI, and technology. The celebration also includes a career fair, robot parade, and VIP robotics ecosystem networking reception.

INSPIRING FUTURE INNOVATORS



2024 ROBOT BLOCK PARTY SPONSORS



“

“I think the highlight of the event is having young people come and look at our product and experience what's going on in the industry. The industry is booming with regards to just people building their own robotic arms, autonomous robots.”

-Adam Farley, Harmonic Drive

“RoboBoston was such a cool way to expose my young daughters to all kinds of robots and the creative ways they can be used. Being able to actually interact with the robots sparked their curiosity and interest even more!”

-Marissa McCoy, MITRE

JUMPSTART FELLOWSHIP

WHAT IS THE MASSROBOTICS JUMPSTART FELLOWSHIP PROGRAM?

This program provides a “Jumpstart” for high school girls and prepares them for a career in robotics and the technology sector. The five-month Saturday program curriculum includes three key elements:



FOUNDATIONAL TECHNICAL SKILLS

- Design and simulation (SOLIDWORKS/CAD)
- Fabrication and 3D printing
- Electronics, soldering, circuits
- Sensors
- Programming
- Project management skills while prototyping their final projects, integrating all the technical skills learned



DESIGN & SIMULATION



FABRICATION & 3D PRINTING



CIRCUITS & ELECTRICITY



CODING

PROFESSIONAL DEVELOPMENT

- Soft skills
- LinkedIn training
- Resume building
- Interviewing skills
- Exposure to women in tech
- Mentors
- Robust Network in robotics and tech industries



SOFT SKILLS



NETWORKING

INDUSTRY EXPOSURE


- Visits to leading robotics and tech companies
- Experience with diverse work environments
- Discussions with industry professionals
- First-hand exposure to robotics & tech career paths



INTERNSHIPS

READ
MORE



 Jumpstart internships & experience shared by each cohort



JUMPSTART FELLOWSHIP

Our Jumpstart Fellowship Program has been supported by La Fondation Dassault Systèmes, and our expansion to Lowell, MA, was funded by MassTech Collaborative and hosted at the UMass Lowell NERVE Center. The momentum continues: in this second year of Jumpstart's expansion, four alumni are heading to UMass Lowell—proof of the program's power to launch academic and career pathways. In the five years since its launch, the Jumpstart Program has graduated 98 alumni, many of whom have gone on to pursue STEM studies and careers, with highlights captured in our Jumpstart Five-Year Impact Report.



"Jumpstart has helped me get more hands-on engineering learning. It has provided great mentorship, networking, and guidance. Great preparation for college!"

-Elka

"Before Jumpstart, I never thought I would be able to create an innovative robot from scratch. In this program, I was able to discover so much new material, like laser cutting and SOLIDWORKS. This has completely motivated me to further explore different STEM fields."

-Ashly



**READ
MORE**



[Jumpstart 5 year report
2020-2025](#)



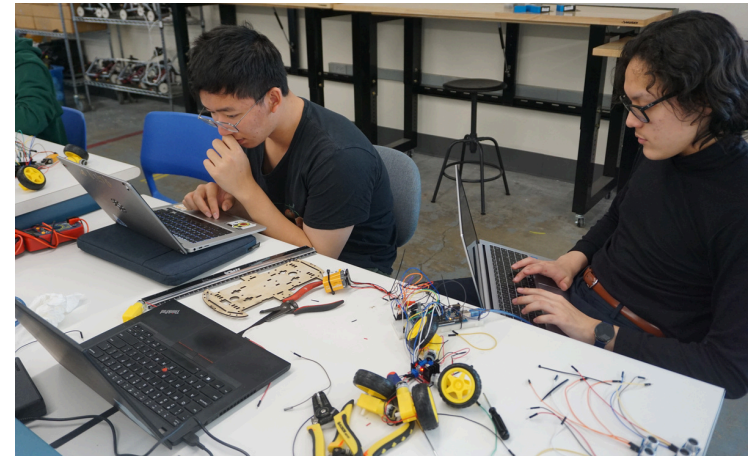
BOOST 2025

BOYS OPTIMIZING OPPORTUNITIES IN STEM AND TECHNOLOGY

BOOST (Boys Optimizing Opportunities in STEM and Technology) is an intensive one-week program designed for high school boys interested in STEM, robotics, and manufacturing. Participants dive into hands-on fabrication, electronics, and programming while exploring the exciting world of robotics and manufacturing.



BOOST offers unique opportunities to visit industry sites, connect with professionals, and gain practical experience through guided workshops. This program is perfect for those ready to build real skills, make connections, and spark a lasting interest in technology and engineering.



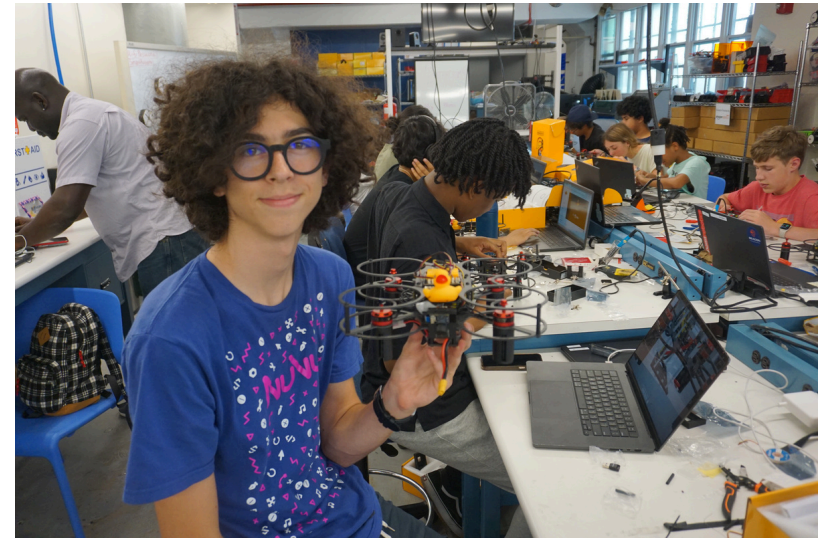
“Boost allowed me to better understand what I want to do in the field of engineering and all of the opportunities afforded to me, alongside building my confidence.”
-Maxwell

ANNUAL DRONE ACADEMY

Our Annual Drone Academy (in its 7th year) teaches students various skills related to drones, including the foundations of soldering and electronics, flight controllers, aviation and aerospace, computer networking, regulations and safety procedures, and more, all while gaining expertise from educators and industry professionals.

BUILD. PROGRAM. FLY.

Brown University originally developed these particular drones for “on-campus” educational experiences. Over several years, the drone kits have been refined to provide students with guided exposure to embrace engineers' mindsets and skill sets. With the help of Duckietown, drones can be produced to serve several Drone Academy sites. This year, we worked with the newest iteration of the now commercially available kits.



This academy is sponsored by **amazonrobotics** and in collaboration with Brown University and Duckietown.

“The MassRobotics Drone Academy not only taught me technical skills such as soldering and coding, but moreover, it allowed me to grow in areas of communication, teamwork, and resilience. Learning went beyond just drone building; I also got to learn about career pathways, discover new interests, and make meaningful connections with those already in the field!”

-Grace

“During the drone academy, I not only learned technical skills, I also learned soft skills like networking, communication, and problem-solving.”

-Nico

BLUETECH ROBOTICS ACADEMY

MITRE



We hosted the 3rd annual BlueTech Robotics Academy in collaboration with MITRE Corporation. The academy is designed for students to explore robotics in an underwater environment.

Students are challenged to integrate various STEM concepts and build a product that thrives at various depths in water. The BlueTech Robotics Academy includes technical curriculum, hands-on underwater vehicle build, and on-site MITRE mentors for student-led sessions highlighting tech careers at MITRE and in STEM.



Students build an aquatic robot, the sea jelly. This is in collaboration with GreenSight and their grant to develop an underwater STEM kit. This curriculum included molding the units, building and attaching the electronics, and testing in the water tank.



"As someone who came for the technical skills, I was blown away by the life skills and lifelong friendships I gained at the academy. I can't recommend it enough to any aspiring engineers."

-Joseph

"BlueTech Academy isn't just a place to learn and build underwater robotics. It's a community where you connect with like-minded people. The experience taught us not only the value of teamwork and accountability, but how to truly live with it."

-Xingtong

MASSACHUSETTS **STEM** WEEK | OCTOBER 2024

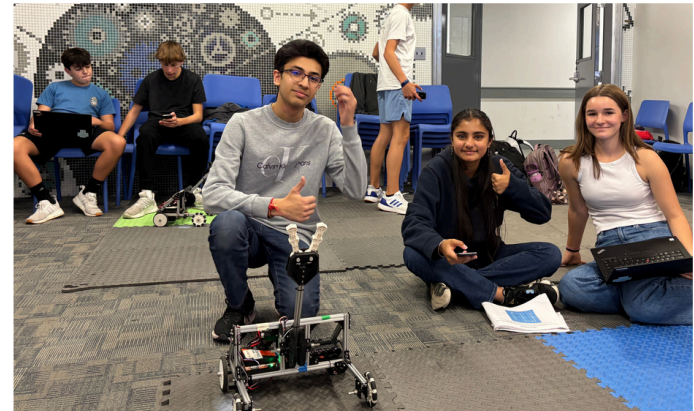
Massachusetts STEM Week is a yearly event held during the third week of October. It is organized by the Executive Office of Education in collaboration with the STEM Advisory Council and the state's nine Regional STEM Networks including Boston. This initiative aims to enhance students' interest, awareness, and confidence in pursuing opportunities in STEM fields.

WE HOSTED
220+
STUDENTS

from:

Burlington High School | English High School | Umanna Academy

It was wonderful to have a fun environment to introduce robotics to students who had never taken a computer science class. Students chatted and happily worked together in groups on a hands-on programming activity, and they were all smiles when their robot moved! They shared that the field trip was engaging, fun, cool, informative, and eye-opening.
- Ms. Tyrell, Burlington High School



COMPUTER SCIENCE WEEK | DECEMBER 2024

Computer Science Education Week is an annual call to action to inspire K-12 students to learn computer science, advocate for equity, and celebrate the contributions of students, teachers, and partners in the field.

This year, the MassRobotics STEM Team worked with students from Boston (Dearborn and New Mission), Stoneham, and Chelsea high schools, as well as welcoming first- and second-generation Americans to the MassRobotics STEM lab.

Participating student classes from:

Catholic Charities of South Boston | Chelsea High School | Dearborn High School | New Mission High School | Stoneham Central Middle School

NATIONAL ROBOTICS WEEK | APRIL 2025

MassRobotics welcomed students from Boston as well as from across the country for hands-on workshops, coding challenges, and the always-popular Robo Soccer ⚽

Students explored real-world robotics tech and left inspired and ready to shape the future of STEM.



WE HOSTED
200+
STUDENTS

Students are from:

Boston International Newcomers Academy |
Burlington High School | Castle Square Tenants
Organization | Cristo Rey Boston High School |
Holland High School of Technology | NSBE Jr.

"We were proud to support this exciting week of STEM programming with MassRobotics and to see so many students inspired by hands-on experiences in robotics. Engaging with young innovators and showing how robotics and advanced technologies play a vital role in Army research and national defense is an important part of how we build the future of STEM."

-Dr. Shawn Coleman, Northeast Regional Lead at the U.S. Army Research Laboratory.

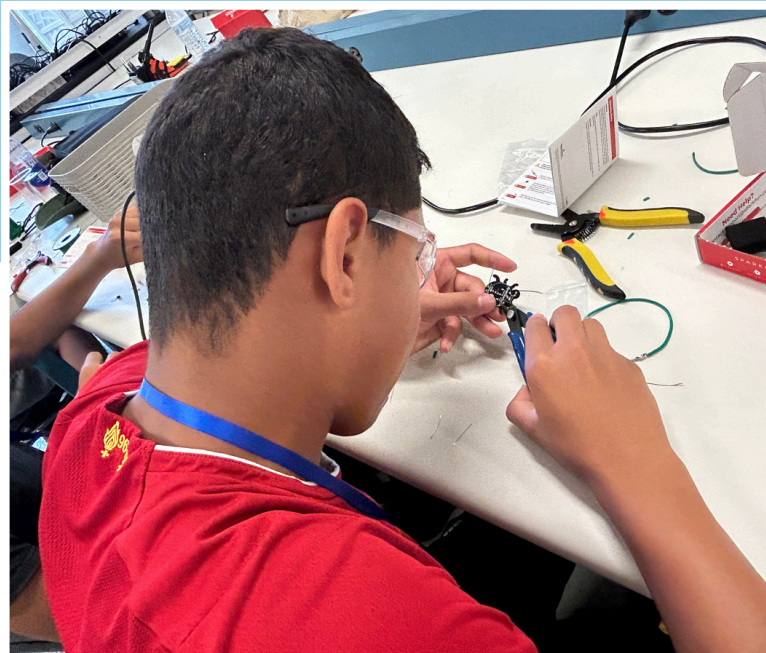


SCHOOL FIELD TRIPS | 2024 - 2025


590+

STUDENTS

MassRobotics welcomed more than 590 students to our STEM Lab for a series of exciting workshops. Students enjoyed engaging talks about robots, their sensors, computing capabilities, and future potential. They also had the chance to program mobile robots and tackle hands-on challenges, creating an inspiring and interactive experience.



Where students were from:

Massachusetts: 

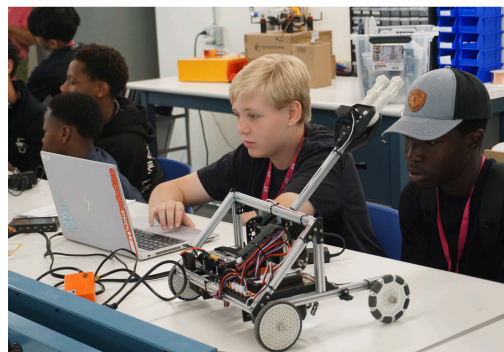
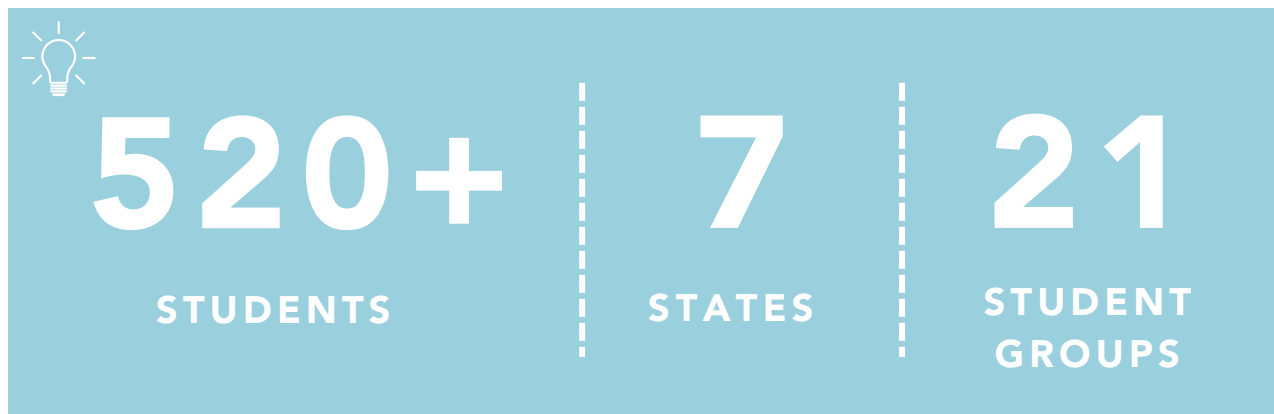
Boston | Boston U | Brockton | Brocton/Milton | Burlington | Cambridge | Chelsea |
Dorchester | East Boston | Lexington | Lowell | Plymouth | Somerville

Other States:

Texas | Florida | Nevada | New York

EDUCATIONAL VISITS WITH EF TOURS | 2025

EF Explore America, one of our STEM Champions, has collaborated with us for the past five years to bring students from around the country to our MassRobotics facility. We deliver hands-on, interactive workshops and robotic experiences that ignite interest in STEM, foster critical thinking, and promote real-world applications of concepts.



We hosted students from:

California | Florida | Illinois | Nevada | Oregon | Texas | Washington State

INSPIRE THE NEXT GENERATION OF INNOVATORS



BECOME A STEM CHAMPION

massrobotics



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SPECIAL THANKS

MASSROBOTICS STEM CHAMPIONS



EXPLORE
AMERICA



MASSROBOTICS STEM CONTRIBUTORS



MITRE



LIGHTSPEEDMFG

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massro

We bring
Robotics to
Life.



Empowering **Robotics** Innovation Worldwide

Our mission is to help create and scale the next generation of successful robotics and AI technology companies by providing entrepreneurs and startups with the workspace, resources, programming, and connections they need to develop, prototype, test, and commercialize their products and solutions.

While MassRobotics originated and is headquartered in Boston, we reach and support robotics acceleration and adoption globally. We work with startups, academia, industry, and governments both domestically and internationally.



MassRobotics is the world's largest independent robotics hub dedicated to accelerating robotics innovation, commercialization and adoption.

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