

OHI/O INFORMAL LEARNING IN TECH

By emphasizing experiential and diverse learning opportunities for students regardless of skill level or background, the OHI/O Program fosters a tech culture at The Ohio State University. Outside the classroom, OHI/O connects students to real-world problems and opportunities by engaging with community and industry partners.

OHI/O organizers are driven by a fundamental belief in the power of creation and are dedicated to helping students develop skills such as technical ability, communication, creativity and critical thinking. The program is building excitement, camaraderie, and access to resources for the thinkers, makers, and do-ers of Ohio State.

HISTORY

OHI/O's annual hackathon has grown from 100 students in the library basement during 2013 to 800+ students and the largest hack event in Ohio. The OHI/O platform introduced satellite events in 2014, namely Ohio State's first hardware-focused makeathon in 2015, the program sponsored Ohio State students to attend GiveBackHack, focused on social entrepreneurship. Since then, OHI/O has increased its participation in community events more than six fold.

KEY EVENTS

Creative and competitive events have emerged from OHI/O, forming the largest and most visible aspect of the program.

HackOHI/O

Ohio's largest hackathon, and only Signature Tech Event at Ohio State, brings together over 800 students and 100 volunteers. Students work in teams over 24 hours to create independent projects, or to tackle problems from industry sponsors. Teams have the opportunity to network, apply for internships, seek additional development support and win prizes. 95% of students directly interact with industry sponsors. Participants represent 70 different majors. HackOHI/O also boasts 20% women participants through 2020.

MakeOHI/O

The first hackathon spin-off event focuses on a wide array of hardware projects, from robotics and automation, to circuits and electromechanics. MakeOHI/O 2020 was the largest makeathon in university history with over 180 students and the highest level of participant retention of all OHI/O competitions.



High School I/O

The OHI/O hackathon model invites students from grades 9-12 to spend a Saturday building in teams, and learning from Ohio State students and industry volunteers. This free event builds tech familiarity, connections with professional mentors, and soft skills for success in the real world.

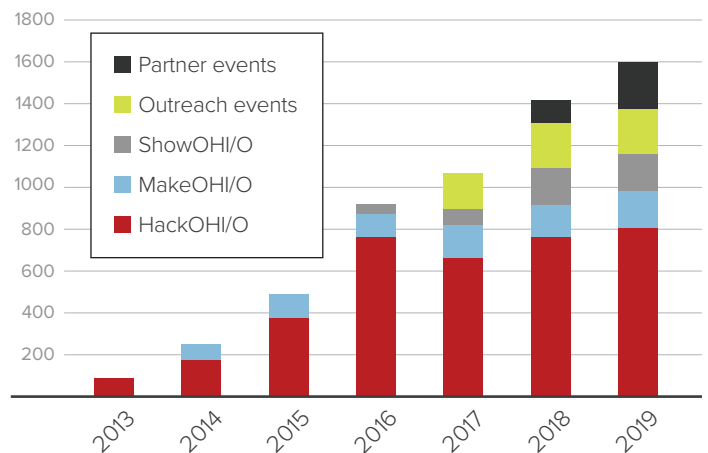
Robo I/O

A two-day event for middle school students to learn about both hardware and software by designing and building a responsive animal robot. Current Ohio State engineering majors and education majors come together to plan the lessons and mentor the middle school teams in their design-build-show weekend.

ShowOHI/O

Budding entrepreneurs from OHI/O, University faculty and alumni apply to present their ventures to the entire entrepreneurial ecosystem in this semi-formal networking event.

SIGNATURE EVENT GROWTH





WORKSHOPS AND EXPERIENTIAL LEARNING

Faculty and industry representatives present on cutting edge tech topics, offer activities to build workforce skills and host discussions on current methodologies for an audience of eager students. Notably, AWS, Microsoft and Github provided free hands-on workshops. The information and learning goals may be entry level or advanced, multidisciplinary or with a narrow focus.

COMMUNITY INVOLVEMENT

OHI/O's mission of building a tech culture goes beyond campus to support local schools, community hackathons, family events and non-profits like *Cool Tech Girls*, and *Can't Stop Columbus*. This support includes OHI/O students hosting educational activities, sending students to local conferences, interacting with Smart Cities or mentoring others in the community. OHI/O annually helps produce the local *Maker Hour of Code* event for families and is a founding member of Columbus Urban League's *Tech with a Twist* for students, grades 8-12. Alumni engage with students as technical mentors and judges. They also return to campus to host tech workshops and provide industry insights.

EDUCATIONAL RESEARCH

OHI/O partners with Ohio State faculty and local tech educators to apply for local and national research grants. OHI/O leadership co-authored a paper selected by American Society for Engineering Education for presentation at the ASEE 2020 Conference. OHI/O is the recipient of the 2018-2021 Advances in STEM Learning grant from the NSF to investigate benefits of collaboration of interdisciplinary faculty for informal learning.

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SEEDLING GRANTS

As students create various minimally viable products over the course of a weekend, some have great potential to undergo further development. Students may apply for grant funding and other resources to achieve the next milestone with their product development.

SCHOLARSHIPS

OHI/O recognizes the importance of doing, tinkering, teamwork and experience in the learning process. While many scholarships already exist for grade and tests scores, OHI/O offers scholarship funds to students who prove their expertise and future promise through making and creating.

COMMUNITY AND PARTNER EVENTS

Data I/O

In partnership with Big Data Analytics Association, a full day of digging into unique datasets for teams to compete in one of three areas: Data Visualization, AI and Predictive Algorithms, and Actionable Insights.

Capture the Flag

In partnership with the Cyber Security Club of Ohio State. Capture the Flag (CTF) is a hacking competition where players compete to obtain "flags" by solving security-based problems.

Hack AI

In partnership with the Artificial Intelligence Club, a smaller hackathon specifically devoted to all things AI: neural nets, machine learning, computer vision and more.

Brain Health Hack

In partnership with the Stanley D. and Joan H. Ross Center for Brain Health and Performance, the Neuroscience Research Institute and the Chronic Brain Injury Discovery Theme, this is a weekend of creating real projects to help address various brain health and performance research and clinical needs. Students design, build and demonstrate projects to a live audience of students, faculty and representatives from both health care and tech industries.

Bio-Hack

In partnership with the Biomedical Engineering Society at Ohio State and May We Help, students create software and hardware solutions to patient situations. Unique to this event is a longer lead-up time in team formation, problem definition, solution forming and project planning to make use of a limited competitive build timeframe on campus.

Code i/o

A half-day middle school intro to computer science in partnership with ACM-W. This popular event is geared towards girls and fills up quickly every year. Activities include interactive programming with Scratch, hands-on introduction to web development, and real-life applications of Computer Science.

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