



2022-2023 ANNUAL REPORT



# OHIO

## *Informal Learning Program*



A PROGRAM DEDICATED TO  
FOSTERING THE TECH CULTURE AT  
THE OHIO STATE UNIVERSITY

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### PROGRAM STAFF

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# OHI/O PROGRAM

## OVERVIEW

Events are 100% free, promoting the best in creative problem solving. Hackathons connect students to industry sponsors forming long-lasting relationships. The OHI/O program reaches over 60 majors and more than 2000 students, faculty, staff and alumni each year.

## MISSION

The OHI/O Program fosters a tech culture at Ohio State and its surrounding communities, ultimately providing students the opportunity to learn and build with real technologies outside of the classroom.

## VISION

OHI/O enhances learning experiences and engagement between students, community, industry, and alumni. OHI/O emphasizes providing students an informal and diverse learning platform regardless of experience or background.

## COMPONENTS

- Collegiate Competitions
- Alumni Engagement
- Industry Mentorship
- Hands-on Workshops
- Education & learning research
- Scholarships + Grants
- K-12 Outreach

## STRENGTHS

- Corporate Support & Partnership
- Multifaceted Tech Talent Pipeline
- Education for Career Development
- Diversity + Inclusion for Excellence
- Campus + Community Partnerships

## ENGAGEMENT

**20%**

All OHI/O portfolio events boast 20% (or more!) of participants identify as women.

**150+**

Over 150 Ohio State alumni volunteered or attended an event as a guest.

**1600+**

Over 1600 students participated in experiential learning opportunities.



# GOALS

## FISCAL SUSTAINABILITY

OHI/O continues to build long-term relationships with sponsors and partners across campus. All events are funded through industry support and managed within a set operating budget. In 2022 OHI/O established an endowment fund to offset future program overhead and has since accrued 15K in interest. Next steps are to explore further investment and fund matching opportunities.

**Long term sustainability relies on diversifying funding resources and building meaningful relationships across campus contributors, industry partners and national foundations.**

## EDUCATIONAL OUTREACH

OHI/O is committed to supporting educational experiences in the community beyond campus.

- High School I/O offers any high school student across the state a hackathon experience. This year we partnered with local high schools to reach new students in their home school. We look forward to bringing alternative tech experience to students through topical workshops during OHI/O events. We have offered guided experiences in game development, cyber security and college career coaching.
- Hack OHI/O is positioned to host international research on hackathons and informal learning in the fall of 2024 as well as increase non-OSU student participation through travel support and state wide partnerships.



# University Alignment

**OHI/O is a part of the greater university and strives to support Ohio State's strategic plan through these pillars of excellence. This living framework guides the University and the OHI/O program, driving forward the future of higher education.**

## Teaching and Learning

OHI/O offers unique informal and experiential hands-on learning opportunities with aid from industry experts, alumni, faculty and staff. Formal learning elements from engineering coursework are integrated and expanded on in the informal setting.

I

## Access, Affordability and Excellence

OHI/O creates informal and experiential learning programs open to every student, regardless of major or experience level, and completely free to participate. Online, in-person and hybrid options make access personalized for each student.

II

## Research and Creative Expression

Self-guided learning is an essential component for successful research. Similarly, creative problem solving and expression is found in the core of all OHI/O Program facets. Partnerships with faculty research labs are encouraged. Program administration focuses on research of learning through OHI/O events.

III

## Academic Health Care

Medical industry tech challenges and resources are a component of the OHI/O Program, thanks to strong partnerships with the College of Nursing, Innovation Studio, Biomedical Engineering, BMES, and the Center for Medical and Engineering Innovation.

IV

## Operational Excellence & Resource Stewardship

With limited funding, care is taken to minimize waste and offer only the most impactful opportunities. The OHI/O Program runs on a lean staff and many volunteer hours.

V



# FISCAL PRINCIPLES

## ACCESS

Financial standing will never stand in the way of a student participating in an OHI/O opportunity.



Thanks to generous contributions, OHI/O provides all opportunities free of charge, and provides supplies & resources to each participant.

## COMMUNITY

OHI/O gives back to Ohio State students and the families of our Central Ohio community to support a growing tech culture.



Striving for a minimum of 10% of spend on K12 programs, OHI/O supports projects, tech scholarships, and other entities with a shared mission.

## RESPONSIBILITY

A focus on fiscal responsibility to provide high quality events at a low per-person cost to the program.

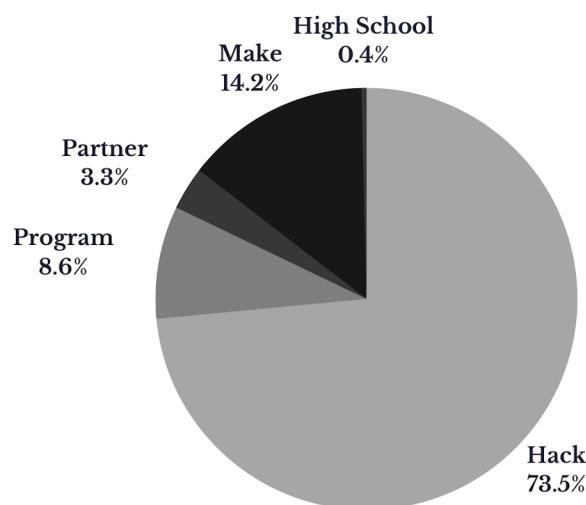
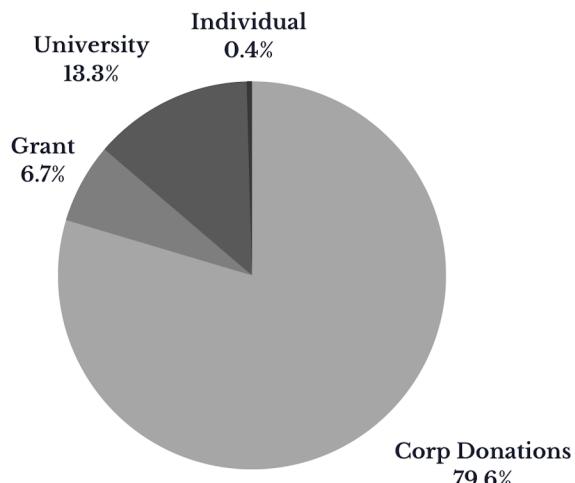


Sourcing the most cost effective supplies, spending time developing partnerships, and focusing on the most impactful community support.

# REVENUE & EXPENSE

## REVENUE BY EVENT

- MakeOHI/O more than doubled its percentage of total revenue.
- HackOHI/O continued to attract the most support.
- Intel committed to a three year partnership with OHI/O

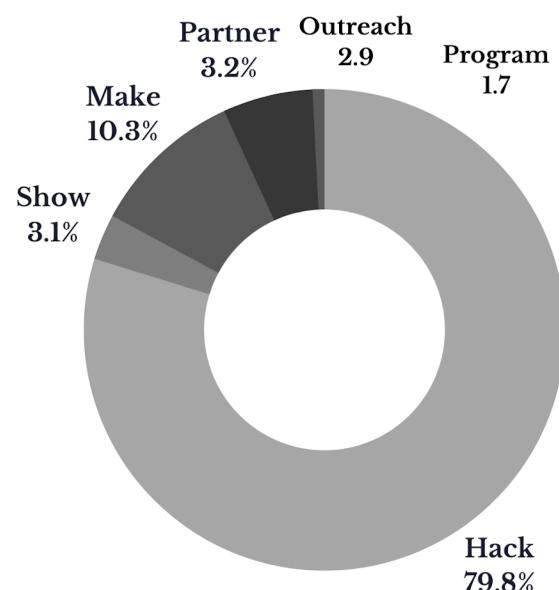


## REVENUE BY SOURCE

- Corporate donations remain the main funding source for OHI/O events due to interest in recruiting participants, coming in at over \$150K.
- This year OHI/O took advantage of support from student life program & operations funding and signature event status to support our cornerstone events.

## EXPENSE BY EVENT

- HackOHI/O was again the largest event of the year with MakeOHI/O growing its attendance.
- MakeOHI/O budget grew from last year as more students are interested in attending in-person events and meals were offered for the first time since the pandemic began.
- ShowOHI/O reduced it's budget this year by moving to a new location and offering simple mixed hors d'oeuvres. The future of this event will rely on entrepreneurship-focused partnerships.



# OUTREACH



## CODE I/O

A free computer-science workshop for students ages 10 - 15 (girls strongly encouraged to apply). This workshop aims to enable students to see the power and fun of programming. Led by ACM-W leaders.

## HIGH SCHOOL I/O

A one day hackathon for high schoolers, offered online this past spring reaching a larger, statewide audience of participants. Led exclusively by the OHI/O team, in partnership with Hilliard Schools.

## OHI/O SCHOLARSHIPS

OHI/O awards \$4,000 in scholarships to undergraduate executive team members that show exemplary leadership skills and go above and beyond to support the OHI/O mission.

## OHI/O TEDx Talk

OHI/O partnered with TEDxOhioStateUniversity to present an interactive talk on the impact of experiential learning. Led by OHI/O student Adit Anup, guests learned about iterative design, reflection and rapid prototyping through a short lecture and paper air plane design contest.

## PAST FOUNDATION

PAST Foundation is a hub for innovation, connecting education, industry, and diverse communities to problem solve for the future of work. OHI/O continues to partner and support efforts to create a culture of life long learning with the PAST foundation.

## CLIMATHON

24-hours of student collaboration and innovation to build Ohio's climate resilience.

BYRD POLAR AND CLIMATE RESEARCH CENTER

## BUCKEYE CTF

Capture the Flag (CTF) is a hacking competition in which teams compete to obtain "flags" by solving security-based problems.



## BIO-HACK

Bio-Hack is a healthcare-focused hackathon where students practice their teamwork skills, technical application, and innovative thinking.



## HACK AI

A 2-day hackathon where students can choose from challenges or tackle their own projects with the use of artificial intelligence.



## DATA I/O

A concentrated experience with data and analytical tools where participants collaborate with peers, faculty, and professionals. Teams work on projects relating to predictive algorithms, data visualization or actionable insights. Open source data sets are provided or groups may also provide their own data.



# PARTNER EVENTS



# CORNERSTONE EVENTS

## HACKOHI/O

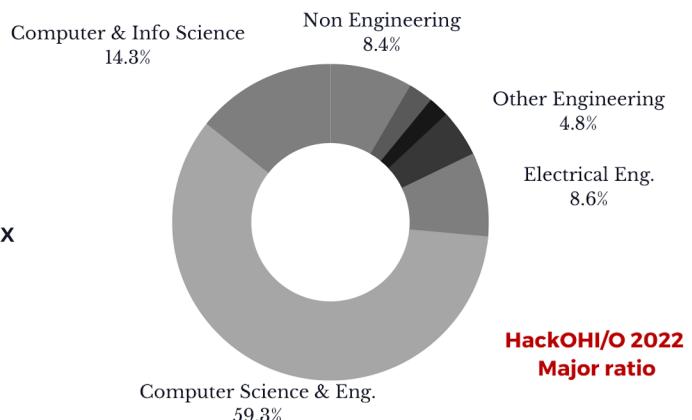
HackOHI/O is an annual 24-hour hackathon creating a full weekend of coding, building, learning, networking, and innovation. This hybrid experience allows teams and volunteers to participate in any combination of remote or in person, increasing accessibility and reach.

### NEW IN 2022

In 2022, HackOHI/O celebrated 10 years of hacking. From humble beginnings as a small hackathon in a library basement to an event that reaches campuses across the country and represents tech industries of all kinds, HackOHI/O continues to demonstrate the impact of experiential learning. For the first time, OHI/O also offered mini games during the event that delivered bite sized team building and engineering challenges.

### PARTICIPANTS

At HackOHI/O 2022, more than 50 different majors were represented among 883 participants. 59.3% of the registrants were CSE Majors followed by CIS at 14.3% and ECE at 8.6%. The others represented a mix of engineering, data analytics, arts and science, business and medical majors.



#### Kristina Johnson's Team

An facial recognition software to detect and alert operators to distracted driving, thus improving road safety.

**Team Video:** [go.osu.edu/hack221stplace](http://go.osu.edu/hack221stplace)

# 883

880+ college students participated in HackOHI/O 2022.

# 220

Teams were formed online and in-person to collaborate on hackathon projects.

# 21

21% of participants self identified as women or non-gender conforming.

# 10

OHI/O celebrates 10 years of HackOHI/O proving its success and sustainability.

# MAKEOHI/O

MakeOHI/O is the Ohio State University's largest Make-a-thon. Over 250 undergraduate and graduate students gather to design, build, and demonstrate projects that address real world problems informed by industry.

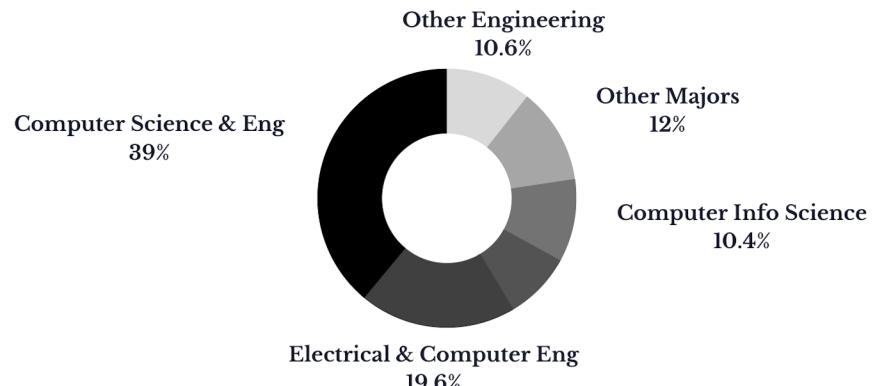
## NEW IN 2023

In 2023, MakeOHI/O returned to focusing on the in-person event while still offering hybrid options. Providing 24hr access to the makerspace and 5 full meals created a welcoming environment for students to stay focused. OHI/O provided each team with permanent project hardware for free, as well as maker expertise from mentors and a partnership with the Innovation Studio. The hybrid model with an in-person focus combined with hardware and support, brought students together for a weekend of community and fabrication.

## PARTICIPANTS

With a focus on the in-person experience, MakeOHI/O cultivated connections in a student centered makerspace at Knowlton hall. 367 students registered across 41 majors from 14 different schools. CSE students made up 39% of participants followed closely by ECE students at 20% and CIS at 10%. This is a stable pattern for MakeOHI/O.

**MakeOHI/O 2023  
Major ratio**



### "Artemius-SAR"

Search and Rescue Vehicle and autonomous drone that supports people during hazardous situations and dangerous missions.

Team Video: [go.osu.edu/make23project](http://go.osu.edu/make23project)

# 280

280+ college students participated in MakeOHI/O

# 56

56% of teams submitted for judging, a 6% increase from 2022.

# 6

6 industry sponsors supported and brought a diverse group of mentors and judges to MakeOHI/O.

# 14

14 different colleges were represented at the hackathon.

# HIGH SCHOOL I/O

High School I/O is a one day hackathon for high school students, offered online and in partnership with Hilliard City Schools. We provide high school participants an opportunity to learn about computer science in a fun, engaging, and inclusive environment that's one part hacking and one part workshop.

## NEW IN 2023

For the first time since 2019, High School I/O was held in-person. Using tools from OHI/O collegiate hackathons High School. Through a first ever partnership with the Hilliard School district, the hackathon was hosted at the Hilliard Innovative Learning Hub. Students worked in teams to build technology projects that address community needs. Students developed new friendships, created connections with professionals, and learned soft skills that will help them succeed in school and beyond.

In addition to the opportunity to hack a new project, participants were also offered a series of game development workshops through Game-U.



1st  
Place

### "Bilted"

A website that shows real-time stock trends using Yahoo Finance API and Plotly. It also provides OpenAI-generated company info and investing tips

74

74 high school students participated in person.

1

1st ever game development workshops offered in partnership with Game-U.

25

25 different high schools were represented at the hackathon.

23

23 OHI/O college students volunteered as organizers and mentors to younger students.

# SHOWOHI/O

This formal event highlights outstanding and innovative technologies developed by Ohio State faculty, students, and alumni. This event reaches beyond campus, linking students and faculty to alumni and the entrepreneurial community to celebrate and support tech entrepreneurs making an impact.

For the first time in 2023, ShowOHI/O invited the OHI/O Alumni group to participate as a mentorship recourse and present the buckeye choice award. This post graduate connection extends OHI/O impact beyond campus and seeds meaningful industry relationships. For a second year OHI/O invited community tech + entrepreneurship resources to connect with emerging innovators. We aim to create connections that help tech entrepreneurs reach their next stage of development. Resource Tables included:

- **Women Founders**- a youth-powered nonprofit on a mission to close the gender gap that exists in the realm of entrepreneurship and innovation.
- **The Entrepreneurial Business Law Clinic** at The Ohio State University Moritz College of Law.
- **Rev1 Ventures**- the startup studio that helps entrepreneurs and corporations accelerate innovation.
- **OHI/O Alumni**- Bringing together former OHI/O event organizers to stay connected and support current students.

## VIP PANEL & KEYNOTE

ShowOHI/O featured a panel of experts to discuss topics most important to budding tech entrepreneurs and a keynote TEDx talk.

**Dr. Jeff Spitzner, CEO & President at MatchTX presented his TEDx talk on the importance of startup data security and multidisciplinary education. Spitzner graduated from OSU with a PHD in Molecular Genetics and was also an Adjunct Assistant Professor in BioMedical Informatics at OSU.**

Panel:

- **Megan Neff**, Director of Venture Development at Rev1 Ventures
- **Dr. Jeff Spitzner**, Tech Business Executive Management
- **Dr. Arnab Nandi**, Founder of Mobikit and Professor at Ohio State University
- Hosted by **Cheryl Turnbull**, Senior Director, Keenan Center for Entrepreneurship



### **“Artemius-SAR”**

A Search and Rescue Vehicle and autonomous drone that supports people during hazards. Born at MakeOHI/O, and continues development.

1

OHI/O Alumni group came together for the first time to present the Buckeye Choice award

20

Tech Entrepreneurs launching new ventures hosted tables

# FUTURE TARGETS

## DIVERSITY

We aim to increase accessibility and diversity in OHI/O programming. By bringing together students from various disciplines and experiences, we foster cross-pollination of ideas, perspectives, and knowledge, enriching the intellectual and social fabric of the institution. Such inclusive gatherings align with the goals of the computer science and engineering departments, as they actively strive to serve students from all corners of the campus community. Furthermore, these events align harmoniously with the College's core pillar of "Access, Affordability, and Excellence," as they create equal opportunities for students from different backgrounds to participate, learn, and excel together. Embracing diversity in college events amplifies collaboration, enhances creativity, and paves the way for holistic growth and development among students.

## ENGINEERING ENTREPRENEURSHIP

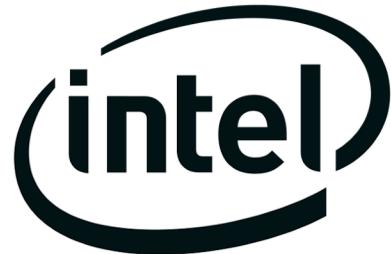
OHI/O continues to focus on harnessing the engineering mindset as the next step in supporting future generations of engineers. Through strategic partnerships on campus and beyond we aim to support students in their pursuit of entrepreneurship and the development of their tech projects at any part of their journey. Our hackathons provide a launch pad for students to kickstart a new idea while ShowOHI/O helps connect them with valuable resources on campus and across the community. Through these staples and incorporating Kern Entrepreneurial Engineering Network's entrepreneurship mindset within OHI/O programming we hope to drive students to greater success and help make the impossible, possible.

## ACADEMIC ENGAGEMENT

OHI/O holds academic achievement, research, and collaboration in high regard, recognizing their intrinsic value in fostering innovation and growth. To further cultivate these foundations, OHI/O plans to host specialized hackathons in partnership with faculty across the campus, providing students with immersive opportunities to apply their skills and better engage with formal academia. We aim to help bridge the gap between theory and practice, empowering students to develop practical solutions and cultivate essential skills. Additionally, OHI/O envisions embedding its programming within the formal capstone curriculum, enabling students to demonstrate their proficiency in a tangible and impactful manner. By prioritizing academic achievement, research, and collaboration, OHI/O strives to elevate the educational landscape, fostering a culture of innovation, and preparing students for success in the dynamic world of technology.



# SPONSORS



**Amazon Web Services**

**Aptiv**

**Autodrive**

**Aware**

**CapTech**

**Cardinal Solutions**

**Caterpillar**

**CGI**

**CHN Analytics**

**Deloitte**

**Hilliard City Schools**

**JobsOhio**

**Lutron**

**Nationwide Insurance**

**Rev One**

**Stevens Capital Management**



# PARTNERSHIPS

OHIO partners across Columbus



THE  
**INNOVATION STUDIO**

the  
**Electronics Club**



**CMEI**



**BMES** BIOMEDICAL  
ENGINEERING  
SOCIETY

**KEEN**  
ENGINEERING UNLEASHED



**DIGITAL FLAGSHIP**

Institute for  
CYBERSECURITY & DIGITAL TRUST

cooltechgirls



THE  
PAST FOUNDATION

**CYBER SECURITY CLUB**

BYRD POLAR AND  
CLIMATE RESEARCH CENTER

**THE OHIO STATE UNIVERSITY**  
COLLEGE OF ENGINEERING

**THE OHIO STATE UNIVERSITY**  
UNIVERSITY LIBRARIES

**THE OHIO STATE UNIVERSITY**  
OFFICE OF STUDENT LIFE

Department of  
**ELECTRICAL & COMPUTER ENGINEERING**  
Department of  
**COMPUTER SCIENCE AND ENGINEERING**

**THE OHIO STATE UNIVERSITY**  
ALUMNI ASSOCIATION

**THE OHIO STATE UNIVERSITY**  
KEEAN CENTER FOR ENTREPRENEURSHIP

# LEADERSHIP

## FACULTY ADVISORY COMMITTEE

In its fourth year, the Faculty Advisory Committee (FAC) met twice. Members are volunteers from around campus who are passionate about the work of OHI/O, can offer various elements of support, and understand what it means to the students and for the community.

<b>Meris Longmeier, Faculty Director</b>	<b>University Libraries</b>
<b>Jeremy Morris, Faculty Director</b>	<b>Computer Science and Engineering</b>
Steve Bibyk	Electrical and Computer Engineering
Julia Armstrong	Institute for Cybersecurity and Digital Trust
Sandra Metzler	Mechanical and Aerospace Engineering
Amy Thaci	Engineering Career Services
Danny Dotson	University Libraries
Zach Sanderson	Innovation Studio
Josh Roush	Translational Data Analytics Institute
Chris Orban	Physics Associate Professor
Scott Sheeler	ODEE Digital Flagship
Clayton Greenbaum	Electrical and Computer Engineering
Rick Voithofer	Educational Studies, EHE

## INDUSTRY ADVISORY BOARD

Rajeev Chhajer, Connected Technologies Research / Associate	Honda
Samantha Lynch, Sr. Coordinator	Honda
Ryan Lingo, Developer advocate 99P labs	Honda
Kiran Elavankal, Technology Enterprise Architecture	AEP
Daniel H Lively, Project Manager	AEP
Aaron McCanty, Cyber Computer Scientist	Battelle
Rob Cary, Program Manager	Engie
Ted Griffith, Managing Director for Information Technology and Logistics	JobsOhio
Dave Brewster, Director, Technology Industry	JobsOhio
Abhishek Mendiratta, Consummate Innovation & Transformation Specialist	Genpact
Manu Goel, Senior VP for Data, Cloud, Experience, Digital Commerce	Genpact
Amit Bhaskar, Transformation Partner & Analytics Site Leader	Genpact
Catherine Allshouse, EVP Internal Operations & CIO	Veeva Systems
Pinal Patel, CIO and Columbus	Veeva Systems

# STAFF

## Program Director: Cal King

Cal (BA, BS) comes from a background of community building, marketing, and MAKE-ing in her previous role as Chief of Staff at the Idea Foundry. Starting her OHIO role in 2020, she helped transition OHIO events to virtual experiences and facilitate distance learning experiences. Her strengths are in community activism and cultivating student leadership. Her drive is to make space for inclusive tech programs that empower individuals to impact their neighborhoods and make positive change in the world.

## Program Coordinator: Liz Stong

Coming on board in June of 2023, Liz (BA) has been working in events planning and office administration in some capacity since 2007. She started working at OSU as a program coordinator for the Ohio Supercomputer Center in 2011, where she helped grow and develop their user group meetings and their summer programs for middle and high school students. She is driven to help build more inclusive spaces and to help STEM become more accessible for everyone. Her strengths lie in problem-solving and event development.

# STUDENT EXECUTIVE BOARD

Amber Phillips .....	HackOHIO Co-Lead
Sakshi Shashiraj .....	HackOHIO Co-Lead
Nathan Howe .....	ShowOHIO Lead
Shritan Gunday .....	ShowOHIO Lead
Arnav Vadnere .....	High School I/O Co-Lead and Judging Lead
Avery Doctor .....	High School I/O Co-Lead and Mentorship Lead
Adit Anup .....	ShowOHIO Lead and Sustainability/Recruitment Co-Lead
Nick Weber .....	Sustainability Co-Lead
Yifei Zhuang .....	Sustainability Co-Lead
Jessie Kong .....	Sponsorship Lead
Victor Chen .....	Webteam Lead
Jason Zhang .....	Marketing and Communications Lead
Prapul Arumilli .....	E-Council Representative

