

# HACKATHONS

Mozhgan Kabiri chimeh (GPU Developer Advocate)



# OPEN HACKATHONS IN NUMBERS

Founded in 2014 under OpenACC Org Umbrella

**500+**

Applications accelerated

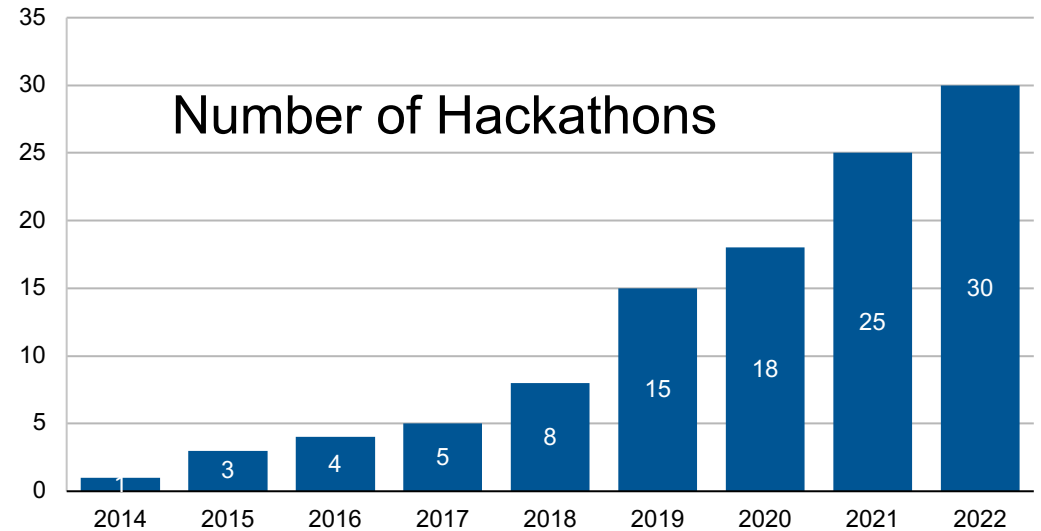
**600+**

Mentors contributed

**Community**

Compute Resources Provided

Founding members

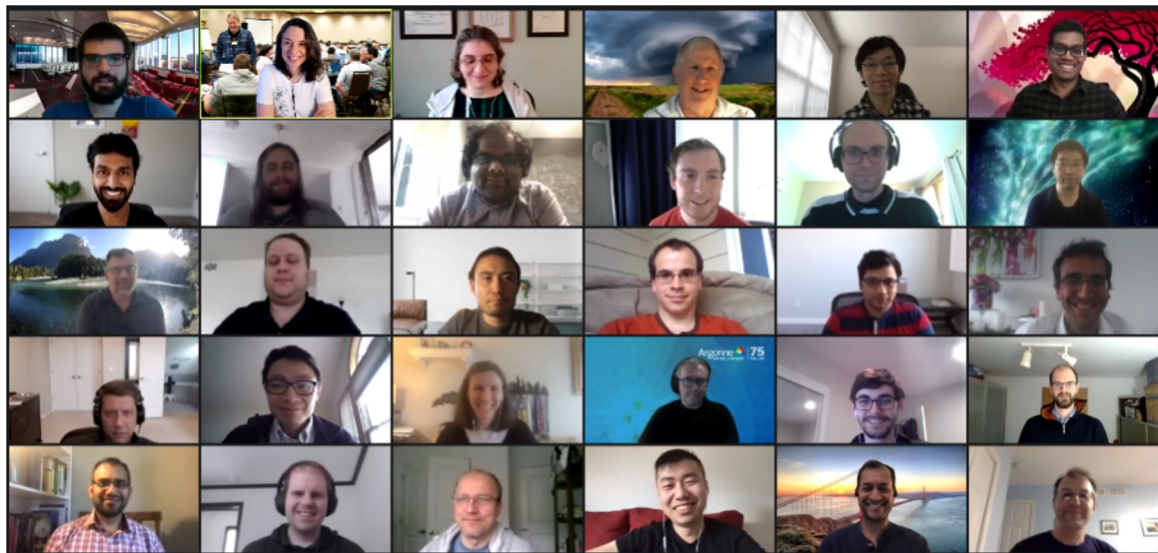


[www.openhackathons.org](http://www.openhackathons.org)



# ARGONNE GPU HACKATHON

April 20, 27-29, 2021



## Participants:

13 teams /14 codes (11 HPC, 3 AI)

**Codes:** MOAB, XPINN, scalable brain simulator, Uno, WEST, Qbox, ptychopy, PIRT, Parthenon, cuSZ, 4DCrystal & 4DClassify, p2r, NWChemEx, 2DHypersonics

## Domains:

molecular dynamics, aerodynamics, high energy physics, STEM, imaging, climate, neuroscience

**Programming models:** CUDA, OpenACC, Kokkos, TensorFlow, RAPIDS, C++ std::par

**Profiling Tools:** Nsight and DLProf

## Results:

up to 300x speed-up and scaled codes up to 64 GPUs

## Mentors:

ANL, NVIDIA, OLCF, NERSC, UTK

*"Learned a lot and achieved a lot of our goals"*

*"Instant help was fantastic; mentors were extremely useful!"*

*"Hackathon itself, hugely helpful. Getting a GPU to work on was almost always immediate."*

# MENTOR AT A HACKATHON

## WHY

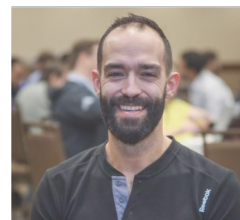
- Start new collaborations
- Learn how latest CPU and GPU technologies are used in real-life projects
- Hone parallel programming skills

## HOW

- Commit 4 days(4-8 hours a day) over zoom over 2 weeks
- Support on Slack for tool/product questions
- Guide teams to success, do not do all the work

---

*“First and foremost, I like the GPU Hackathons. I think they are a fun environment to push productivity that you do not get in a normal workday...Second, I like the exposure to different domains and sciences that I never would have seen otherwise. I also like the exposure to different styles of coding. There's not just one way to write a Fortran or C++ code... More than anything, I do really enjoy taking something that another person views as complex and making it more approachable, down to earth and practical.”*



Matthew Norman, OLCF

Sign up here: <https://www.openhackathons.org/s/become-mentor>.



# Thank you