

NATIONAL CENTER FOR SUPERCOMPUTING APPLICATIONS

Ashby Prize in Computational Science Hackathon



ILLINOIS

NCSA | National Center for
Supercomputing Applications

Hackathon Introduction

- Objectives
 - Let talented and motivated UofI students showcase their skills in a friendly competition while working on challenging problems involving HPC and AI on a state-of-the-art compute platform designed for AI
- Awards courtesy of Steve Ashby
 - Awarded to a multidisciplinary team of students for the innovative use of high-performance computing to address a problem of societal significance

Schedule

- FRIDAY, APRIL 15
 - Deadline to sign up for the hackathon
- MONDAY, APRIL 18
 - 8:00am — Teams are announced (on-line)
 - 4:00pm — Overview of the Hackathon rules, challenge problem, and a brief intro to HAL computing environment (1030 NCSA)

Schedule: Saturday & Sunday

- 8:30am – 4:00pm
 - Teams work on the problem (NCSA rooms 1104, 2000, 2100, 3000, 3100)
 - light breakfast will be provided in 2100 NCSA
- Noon
 - Lunch (pizza) will be provided in 2100 NCSA
- 1:00pm -
 - Teams continue to work on the challenge problems
 - snacks will be provided in 2100 NCSA
- 4:00pm – 5pm
 - Teams briefing (1104 NCSA)

Schedule

- MONDAY, APRIL 25
 - 3:00pm — Teams present results (1030 NCSA)
- WEDNESDAY, APRIL 27
 - Winning teams are announced

Project

- Learning Models to Predict Climate-Relevant Properties of Atmospheric Aerosols
 - The objective of this project is to create a machine learning model trained on accurate WRF-PartMC data that predicts climate-relevant aerosol properties from only the features that current GCMs can output. For more details, see the document posted on-line.
- Dataset: Data will be provided on HAL cluster
 - /home/jcurtis2/hackathon_data/
- Science team contact: Dr. Jeffrey Curtis jcurtis2@illinois.edu
Prof. Nicole Riemer nriemer@illinois.edu
- Technical team contact: Dr. Dawei Mu dmu@illinois.edu

Teams

Team 1 – room 1104

Kastan Day, kvday2@illinois.edu

Daniel, christl3@illinois.edu

Seonghwan Kim, sk77@illinois.edu

Vardhan Dongre, vdongre2@illinois.edu

Team 2 – room 1104

Aniruddha Mukherjee, am31@illinois.edu

Richwell Perez, richwell@illinois.edu

Philip Chmielowiec, philipc2@illinois.edu

William Eustis, weustis2@illinois.edu

Team 3 – room 1104

Nikil Ravi, nikilr2@illinois.edu

Abhinav Ankur, ankur4@illinois.edu

Brian Yoon, briancy2@illinois.edu

Ajay Arasanipalai, aua2@illinois.edu

Team 4 – room 2000

Ziyang Xu, ziyangx2@illinois.edu

Enyi Jiang, enyij2@illinois.edu

Yuhang Ren, yuhangr2@illinois.edu

Xiuyi Qin, xiuyiqin@illinois.edu

Team 5 – room 2100

Hao Bai, haob2@illinois.edu

Ruike Zhu, ruikez2@illinois.edu

Xiyue Zhu, xiyuez2@illinois.edu

Muhil Arumugam, muhila2@illinois.edu

Team 6 – room 3000

Kwok Sun Tang, kwoksun2@illinois.edu

Chu-Chun Chen, chuchun2@illinois.edu

Tin-Yin Lai, tlai10@illinois.edu

Kedar Phadke, kphadke2@illinois.edu

Labdhi Jain, ljain2@illinois.edu

Team 7 – room 3100

Tianshu Wei, tw27@illinois.edu

Mazer Xu, mingzex2@illinois.edu

Matthew Tang, mhtang2@illinois.edu

Benjamin Nguyen, bnguyen4@illinois.edu

Getting Help

- Sign up for HAL slack channel
 - <https://halillinoisncsa.slack.com/archives/C03CLH34J7J>
- Someone will be always around in **1104 NCSA**
 - Dawei Mu (dmu@illinois.edu)
 - Jeffrey Curtis (jcurtis2@illinois.edu)
 - Volodymyr Kindratenko (kindrtnk@illinois.edu)

Working on the challenge problems

- Location
 - In the designated NCSA conference rooms on Saturday-Sunday
 - Outside of NCSA
- Time
 - From now until next Monday
- Resources
 - HAL cluster - <https://wiki.ncsa.illinois.edu/display/ISL20/HAL+cluster>
 - Get an account on the system now!

Submitting Results

- Required materials to be submitted by the end of the event
 - Code in GitHub
 - Setup your own repository
 - Add all mentors from the previous slide to your repository
 - Final presentation
 - On Monday, April 25 at 3pm in 1030 NCSA
 - PowerPoint slides describing your approach and your results, detailed enough to understand
 - What exactly you have done, and
 - What exactly you have accomplished
 - For more details, see the problem description document



GOOD LUCK



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