Welcome!



UCSD SMASH & NSF HDR ML HACKATHON





Hybrid species discovery



Gravitational wave detection



Climate event identification



Detecting anomalies in scientific data



Inaugural UCSD SMASH Hackathon!



- This hackathon is hosted by the new <u>UCSD SMASH</u> initiative!
 - UC San Diego Meetings between Astro/physics, SDSC, & HDSI
 - Fosters interdisciplinary discussions and collaboration between UCSD/HDSI/SDSC research

NSF HDR ML Challenge

 Local iteration of the national <u>NSF HDR ML Challenge</u>: Anomaly Detection in Scientific Datasets



The National Science Foundation (NSF) Harnessing the Data Revolution (HDR) Institutes are an integrated fabric of interrelated institutes that aim to accelerate discovery and innovation in multiple areas of data-intensive science and engineering.

 Goal of the challenge: successfully detect anomalies in your choice of 3 datasets:



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Climate event identification



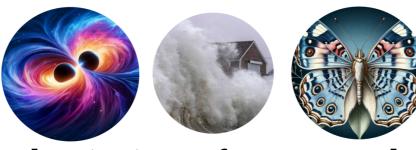


Hybrid species discovery



Objectives

1. Choose a dataset

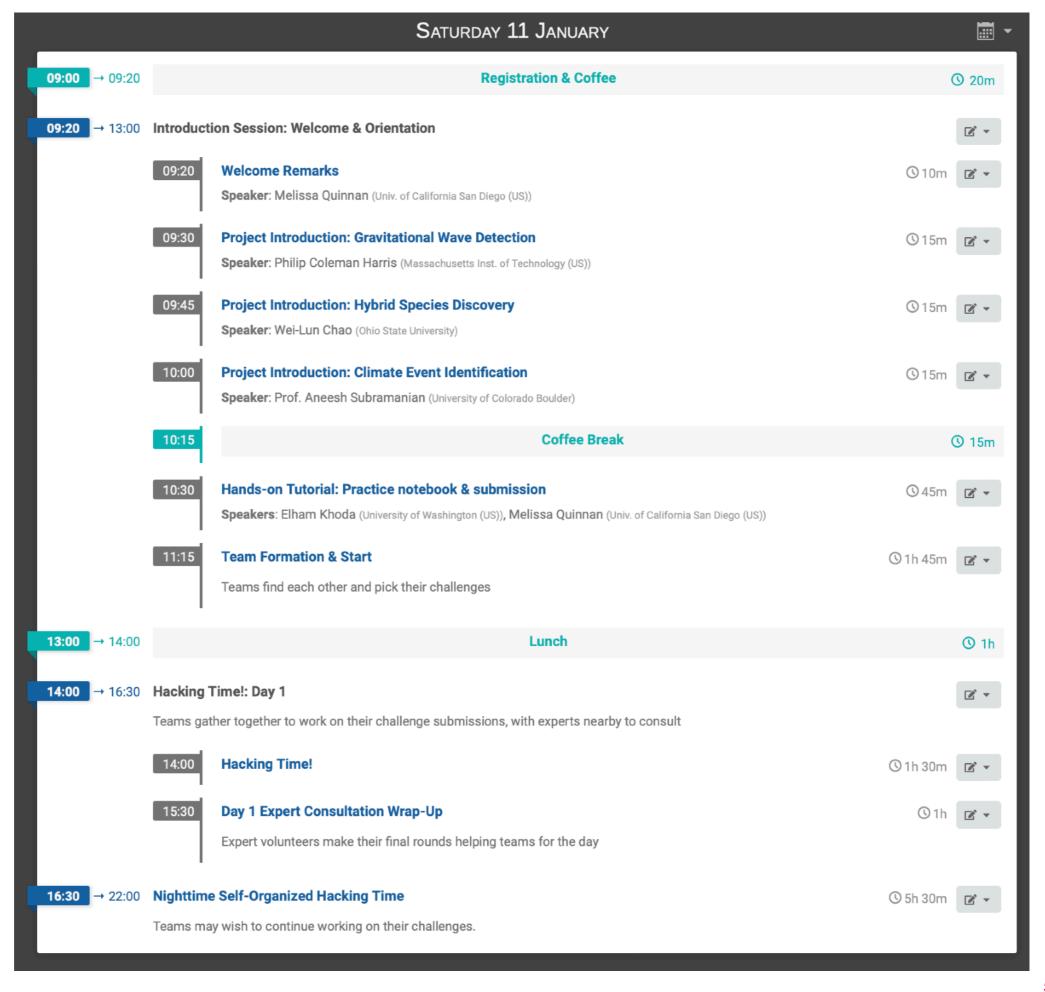


- 2. Make a codabench submission of your model
- 3. Submit a google form with team information and description of your model

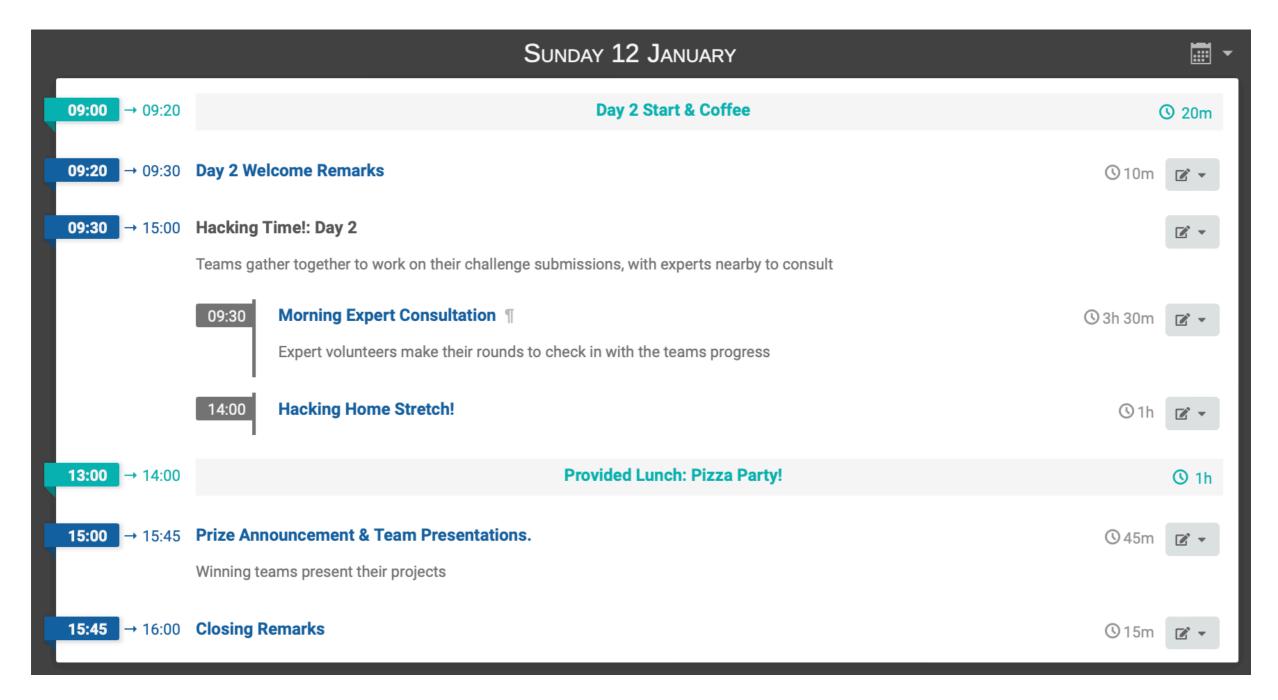
Prizes will be awarded for:

- The best performing model (most accurate at identifying anomalous events) according to the codabench ranking to one team from each challenge
- The best model (as scored by the judges) to one team from each challenge
- Fun surprise prizes!

Agenda



Agenda



Timeline

- UCSD Hackathon- submissions due by 3pm Sunday January 12
- National HDR Hackathon phase 1: January 31
- National HDR Hackathon phase 2: February 1

Refine your model after the weekend and win more prizes in the national hackathon!



A pool of 6000 USD and additional awards

Resources

- NRP Nautilus put together a jupyterhub with allocated GPU resources for you to use during the hackathon!
 - https://smash-hackathon.nrp-nautilus.io/





- Expert volunteers will be available in FAH for help during hackathon weekend
 - Look for the yellow shirts

Important Links

- Hackathon Website: https://indi.to/ucsdhack
- National Challenge Website: https://www.nsfhdr.org/mlchallenge
- NRP Nautilus JupyterHub link: https://smash-hackathon.nrp-nautilus.io/
- Final model submission form: https://forms.gle/yRSZ9RPDQDZyurNx7
- Hackathon discord: https://discord.gg/WCUn5SWF

Happy Hacking!!



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