HPC in the City: Pandemics

SC23
Denver, CO | i am hpc.

Systems On-Boarding

Pre-Event Training - October 31, 2023

HackHPC
Hackathons and Codeathons

HTTPS://HACKHPC.GITHUB.IO/HPCINTHECITY23

The University of Texas at Austin
Center for Pandemic Decision Science

STAR PARTNERSHIP PROGRAM

TACC TEXAS ADVANCED COMPUTING CENTER

Omnibond
Engineering ▪ Trust ▪ Identity

VOLTRON DATA

SGX3
Extend. Expand. Exemplify.

ORGANIZERS

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AGENDA

1. **Hackathon Objectives**
2. **Project Timeline**
3. **Deliverables and Resources**
4. **Discord**
5. **Github**
6. **Omnibond Project Eureka**
7. **TACC New User Account Creation**

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Join our Discord Server
https://discord.gg/G2a7JWnQkP

HTTPS://HACKHPC.GITHUB.IO/HPCINTHECITY23

Hackathon Objectives and Student Outcomes

The hackathon aims to harness the resources, skills, and knowledge found in the HPC community in an effort to provide applied exposure towards students from 2-4 year post-secondary educational institutions. In short, the hackathon will provide HPC skills and training while targeting problems that directly affect the participants.

Develop knowledge and create solutions to identified pandemic decision science projects through application of data analysis/presentation or management utilizing HPC/CI resources.

Student Outcomes

- Increased familiarity with data science in the cloud
- Experience collaborative software engineering
- Develop professional communication skills

Major and Minor Awards

- Team Introduction
- Project Management
- Team Trailer
- Progress
- Judges Award
  - Criteria
- Viewer's Choice
  - Votes
- Impact Award
  - Community

Criteria :

- Project Impact
- Viability / Usefulness
- The creativity of execution /Wow-effect
- UX / Polish
- Technical complexity
- Collaboration
- Presentation
- Completeness

Project Timeline

Event Simplified Schedule

- **Friday, 11/3/23**
  - **Kick-Off**
    - *Mentor Pitches* & Team Formation
- **Saturday, 11/4/23**
  - Morning Checkin - Team Introductions
  - Afternoon Checkin - Team Goals and Project Plan
- **Sunday, 11/5/23**
  - Afternoon Checkin - One-Day Progress
- **Monday, 11/6/23**
  - Afternoon Checkin - Team Status
- **Tuesday, 11/7/23**
  - Morning Checkin - *Mentor Trailers*
  - **Final Presentations**

~ 96 hrs Total Time
- ~7 hrs Planning / Checkins
- ~30 hrs Sleep/Rest
~59 hrs Work Time

Project Deliverables and Resources

Deliverables:

- Github Repository
  - README.md with project description
  - Source code Including Comments
  - Presentation
    - Team members with pictures
    - Use of technology in the project
    - Project impact to the community

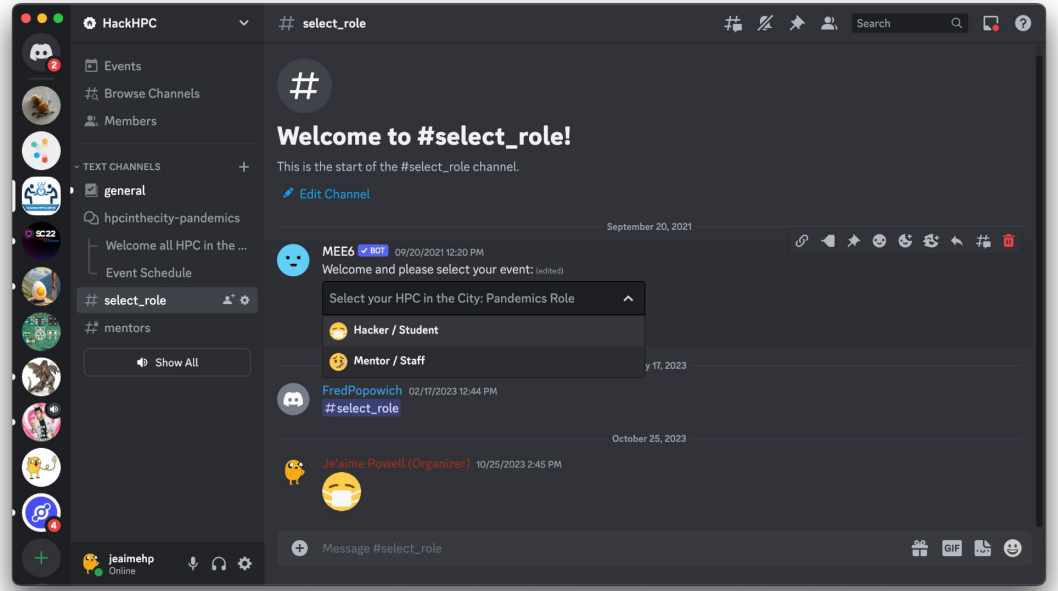
Resources:

- Project Eureka
- TACC Frontera / LS6
- Mobility Dataset (TACC)
- Commonly Used:
  - Python
  - R / RStudio
  - Jupyter Notebooks
  - Node.Js (JavaScript)
  - Colab
  - HTML\CSS
- Discord - https://discord.gg/G2a7JWnQkP

Discord

Join our Discord Server
https://discord.gg/G2a7JWnQkP

- Goto to the #select_role channel and choose your role from the drop down menu
- Event discussion channel is #hpcinthecity-pandemics



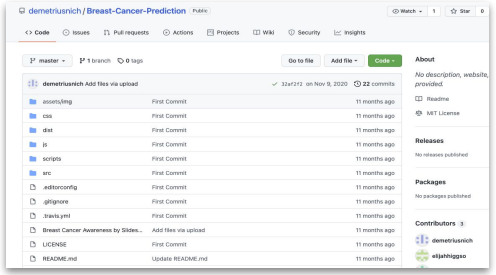
- Text and/or voice communication in teams
  - Mentors will create team channels
- Screen sharing
- File sharing
- Event announcements

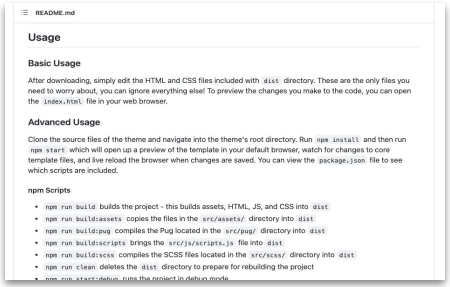
GitHub

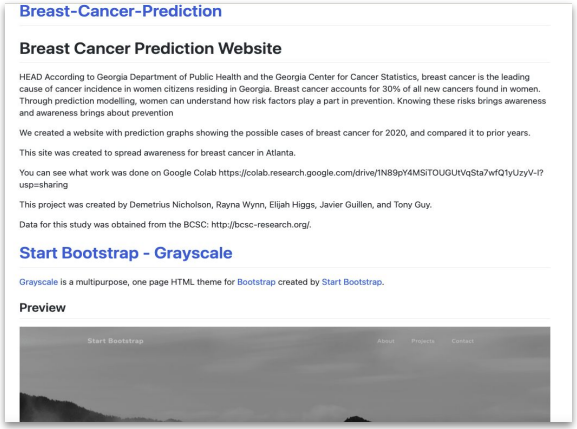
Note: A GitHub repository will be required of all teams when reporting out during final presentations. (Examples: https://hackhpc.github.io/HPCintheCity22/teams/)

[HINT] GitHub Pages is a powerful, free feature!

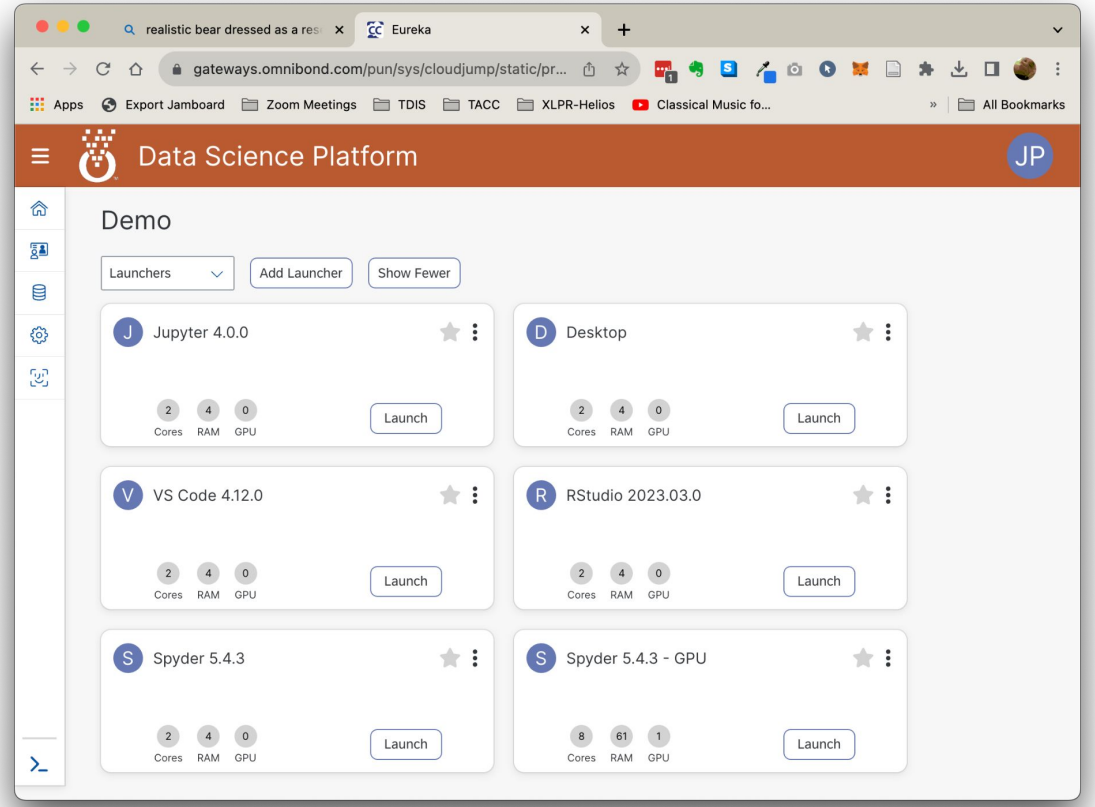
→ *Brief GitHub tutorial on Saturday (11/4) after the morning session*







Omnibond's Project Eureka



- On-Demand Virtual Machines
- Pre-configured Data Science images
- Provided for each team
  - Access created based on your registration information
- Brief tutorial during the Kick-Off

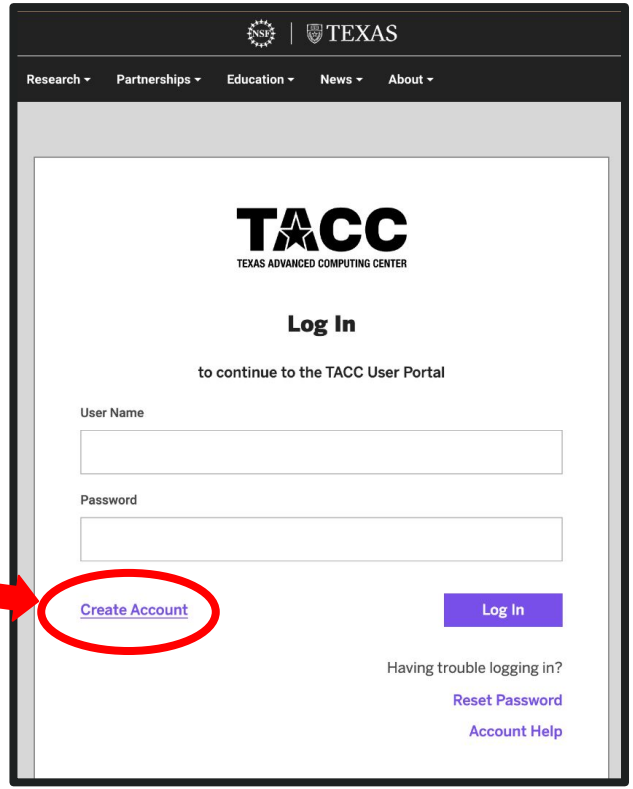
TACC Computational Resources

TACC New User Account Creation

1. https://tacc.utexas.edu
2. Click “Login” in the upper right corner
3. Select “Create Account”
4. Create a MFA token
5. Provide your TACC user account via this form: https://forms.gle/pCu9K9X5cC6seJpc8

* Use your school or organization email address. DO NOT USE A GMAIL, YAHOO, or HOTMAIL email address

** If you do not have US citizenship please inform me via email: jpowell@tacc.utexas.edu



Dataset Information

Mobility Dataset location: **`/work2/projects/utprojections/safegraph_data`**

Project: TACC-TRAIN

Sub directories:

- FULL_MOBILITY_DATA
- OPEN_CENSUS_DATA

Accessing the data using: https://tap.tacc.utexas.edu

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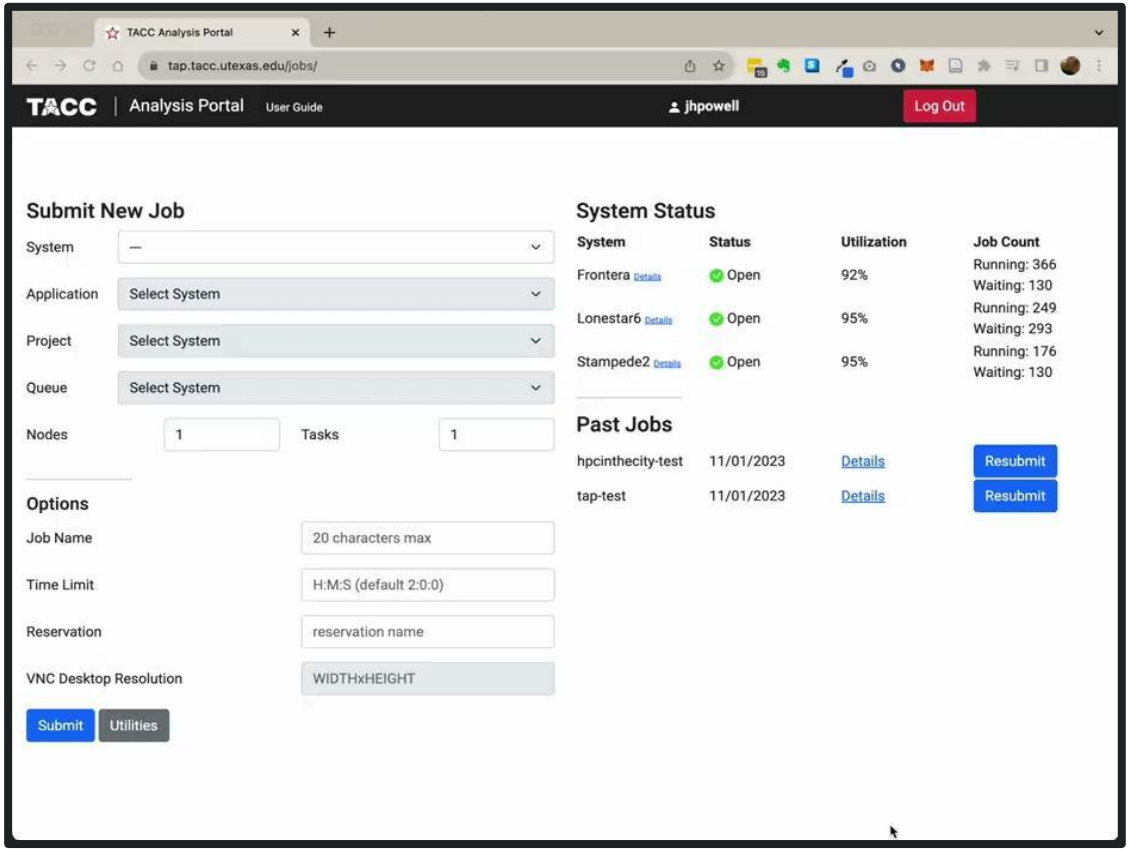
Starting a Session using TAP

Site: https://tap.tacc.utexas.edu

Job:

- System:
  - Frontera
- Application:
  - Jupyter Notebooks
- Project:
  - TRA23003
- Queue:
  - Development
- Job Name:
  - *<up_to_you>*
- Time Limit:
  - 30 Minutes (Default 2hrs)
  - 00:30:00



Using a TAP session to access CDPS Dataset

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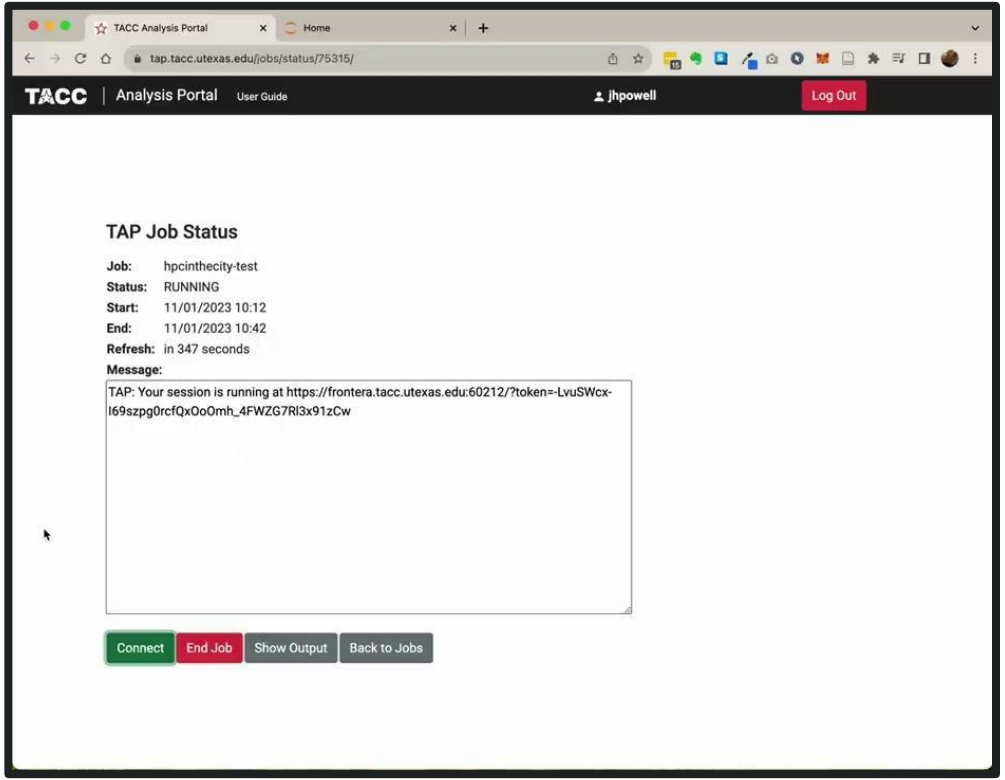

TACC Analysis Portal (TAP) and Core Experience Portal (CEP)

Sites: https://tap.tacc.utexas.edu and https://cep.tacc.utexas.edu

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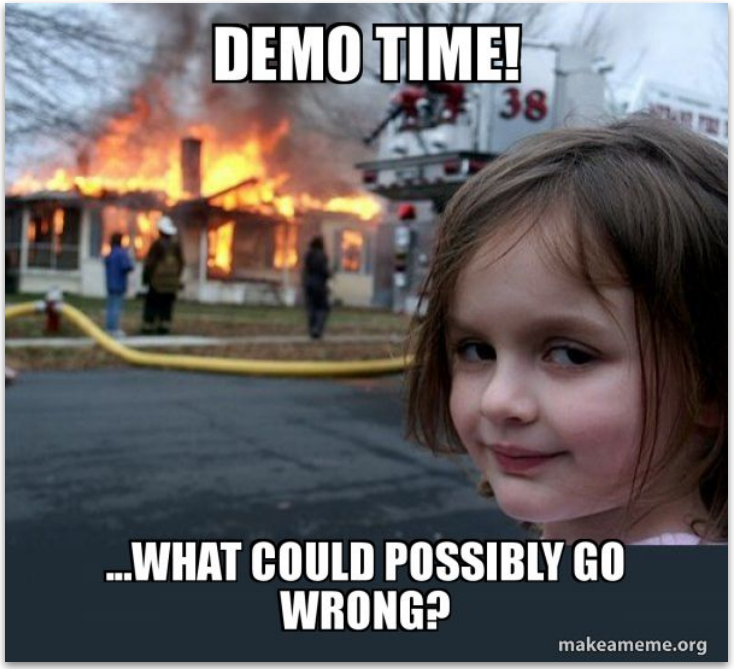

QUESTIONS ??

Next Session:

- **Kick-Off**
  [Friday, *11/3/23 @ 5pm CDT*]

Schedule:

https://hackhpc.github.io/hpcinthecity23/schedule.html

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