

HPC in the City: Pandemics



SC23
Denver, CO | i am hpc.



Systems On-Boarding

Pre-Event Training - October 31, 2023



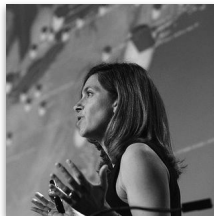
[HTTPS://HACKHPC.GITHUB.IO/HPCINTHECITY23](https://hackhpc.github.io/hpcinthecity23)



ORGANIZERS



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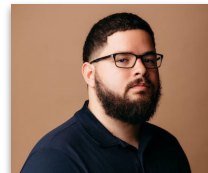
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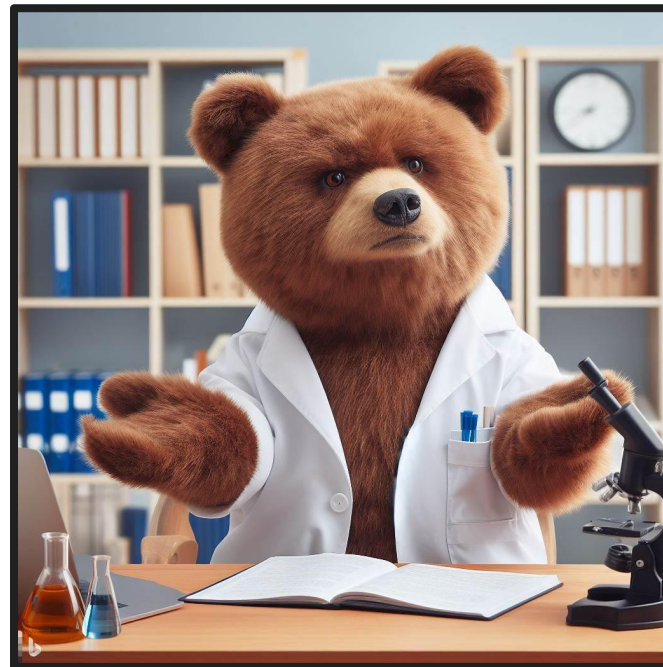


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AGENDA

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



Join our Discord Server

<https://discord.gg/G2a7JWnQkP>



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SARASOTA COUNTY COMMUNITY COLLEGE

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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>



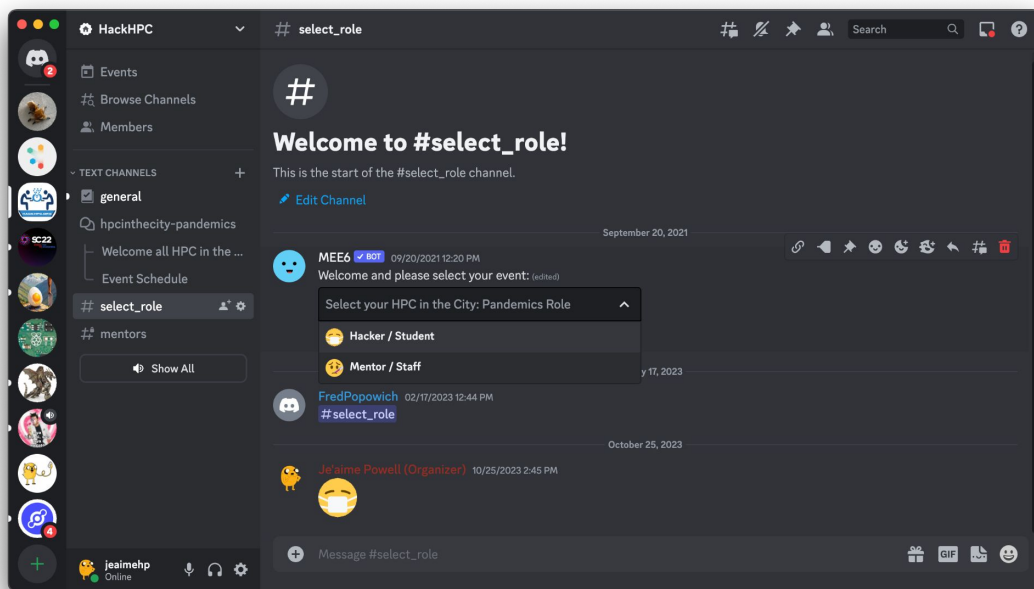


Discord



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



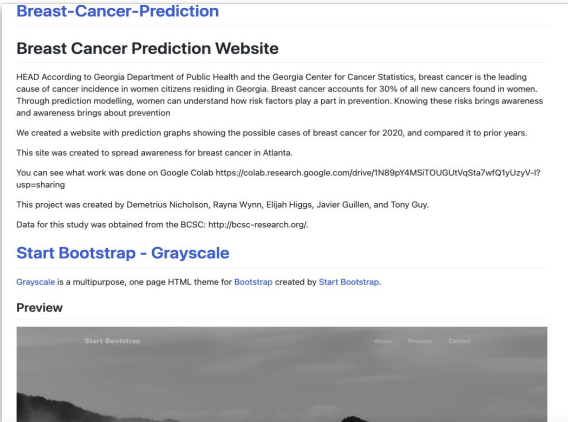
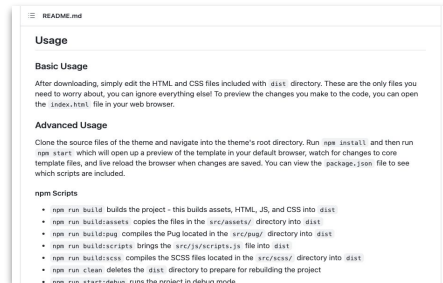
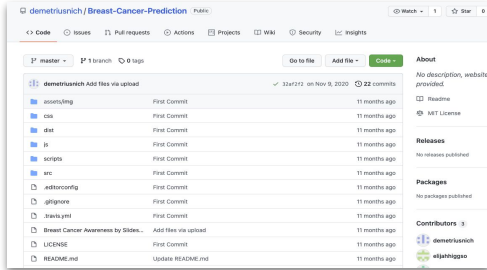


GitHub

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*

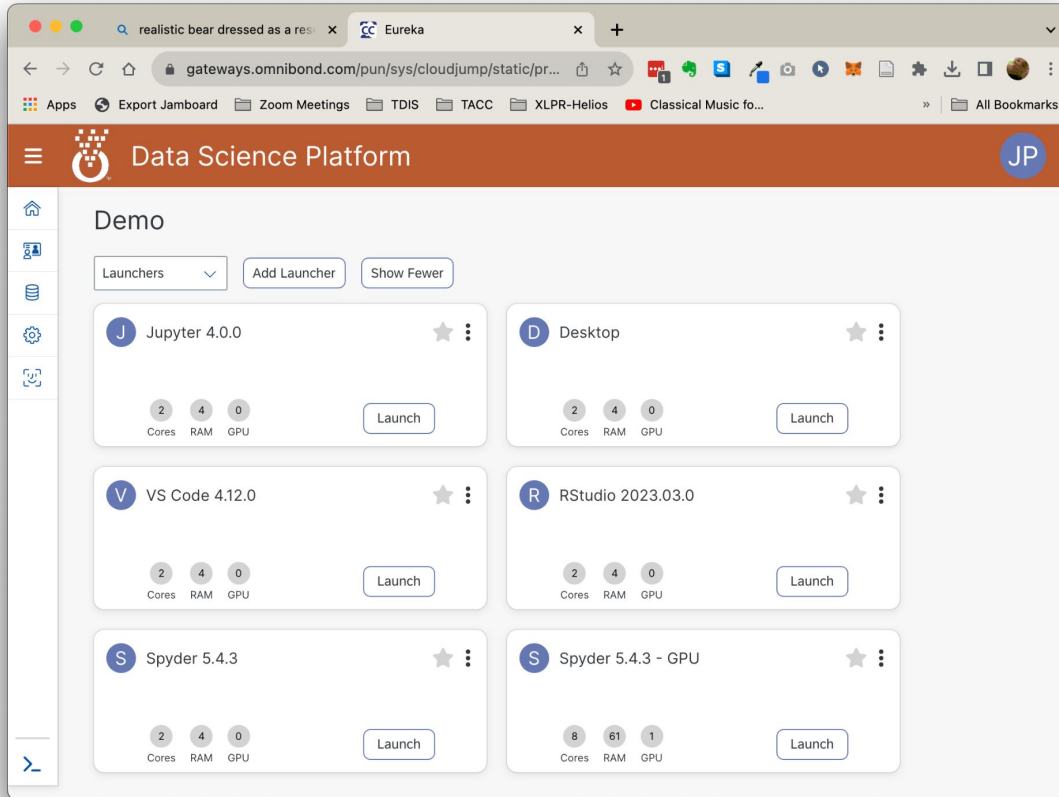


SC23
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Omnibond's Project Eureka



realistic bear dressed as a res... x Eureka x +

gateways.omnibond.com/pun/sys/cloudjump/static/pr... ☆

Apps Export Jamboard Zoom Meetings TDIS TACC XLPR-Helios Classical Music fo... » All Bookmarks

Data Science Platform JP

Demo

Launchers Add Launcher Show Fewer

Jupyter 4.0.0 ★ ⋮
2 Cores 4 RAM 0 GPU Launch

Desktop D ★ ⋮
2 Cores 4 RAM 0 GPU Launch

VS Code 4.12.0 ★ ⋮
2 Cores 4 RAM 0 GPU Launch

RStudio 2023.03.0 ★ ⋮
2 Cores 4 RAM 0 GPU Launch

Spyder 5.4.3 ★ ⋮
2 Cores 4 RAM 0 GPU Launch

Spyder 5.4.3 - GPU ★ ⋮
8 Cores 61 RAM 1 GPU Launch

- 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 New User Account Creation

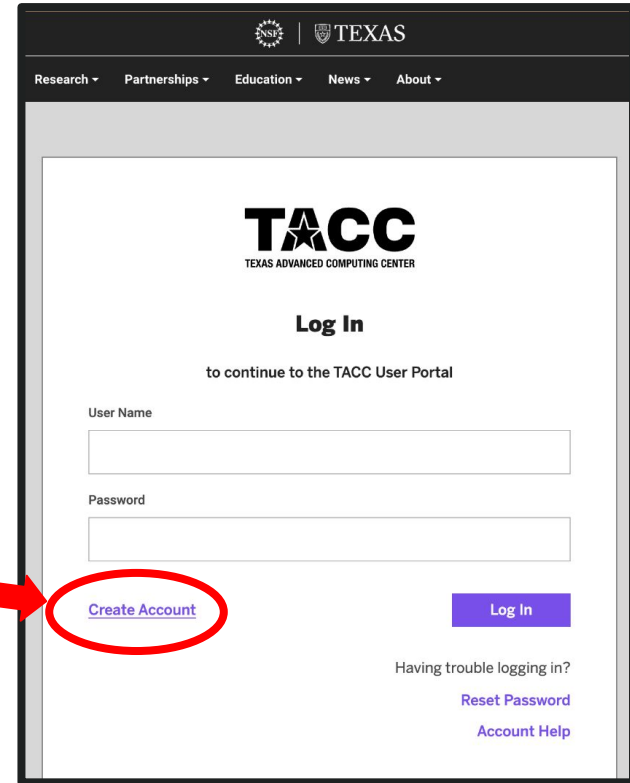
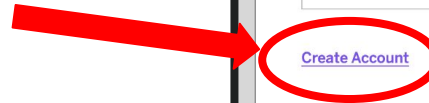
1. <https://tacc.utexas.edu>
2. Click "Login" in the upper right corner
3. Select "Create Account"
4. Create a MFA token
5. Provide your TACC user account via this form:



<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



Research - Partnerships - Education - News - About -

TACC
TEXAS ADVANCED COMPUTING CENTER

Log In

to continue to the TACC User Portal

User Name

Password

[Create Account](#)

Having trouble logging in?
[Reset Password](#)
[Account Help](#)



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

Project: TACC-TRAIN

Sub directories:

- FULL_MOBILITY_DATA
- OPEN_CENSUS_DATA



SAFE GRAPH

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



The University of Texas at Austin

Center for Pandemic Decision Science



TACC Starting a Session using TAP

TEXAS ADVANCED COMPUTING CENTER

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

The screenshot shows the TACC Analysis Portal interface. The top navigation bar includes the TACC logo, 'Analysis Portal', 'User Guide', a user profile for 'jhpowell', and a 'Log Out' button. The main content area is divided into several sections:

- Submit New Job:** A form with dropdown menus for System, Application, Project, and Queue, and input fields for Nodes (1) and Tasks (1). Below the form are 'Options' for Job Name (20 characters max), Time Limit (H:M:S, default 2:0:0), Reservation (reservation name), and VNC Desktop Resolution (WIDTHxHEIGHT). 'Submit' and 'Utilities' buttons are at the bottom.
- System Status:** A table showing the status of various systems.
- Past Jobs:** A list of previously submitted jobs with 'Resubmit' buttons.

System	Status	Utilization	Job Count
Frontera Details	Open	92%	Running: 366 Waiting: 130
Lonestar6 Details	Open	95%	Running: 249 Waiting: 293
Stampede2 Details	Open	95%	Running: 176 Waiting: 130

Job Name	Submitted	Details	Resubmit
hpcinthe-city-test	11/01/2023	Details	Resubmit
tap-test	11/01/2023	Details	Resubmit



Mobility Dataset location:

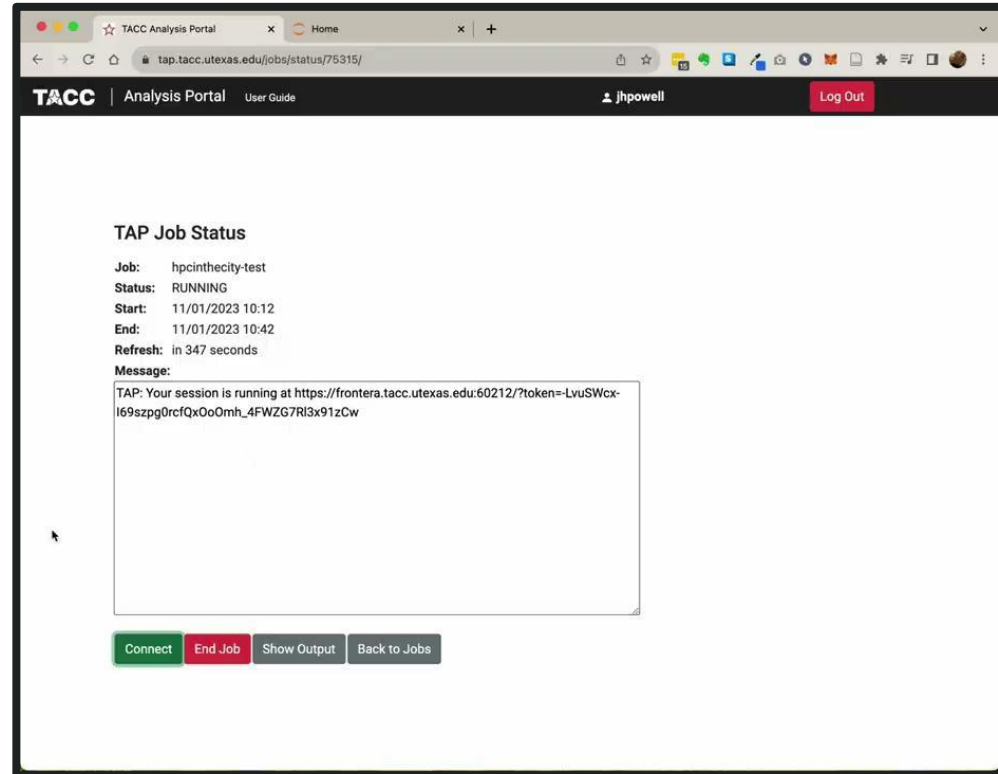
`/work2/projects/utprojections/safegraph_data`

Project: TACC-TRAIN

Sub directories:

- FULL_MOBILITY_DATA
- OPEN_CENSUS_DATA

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

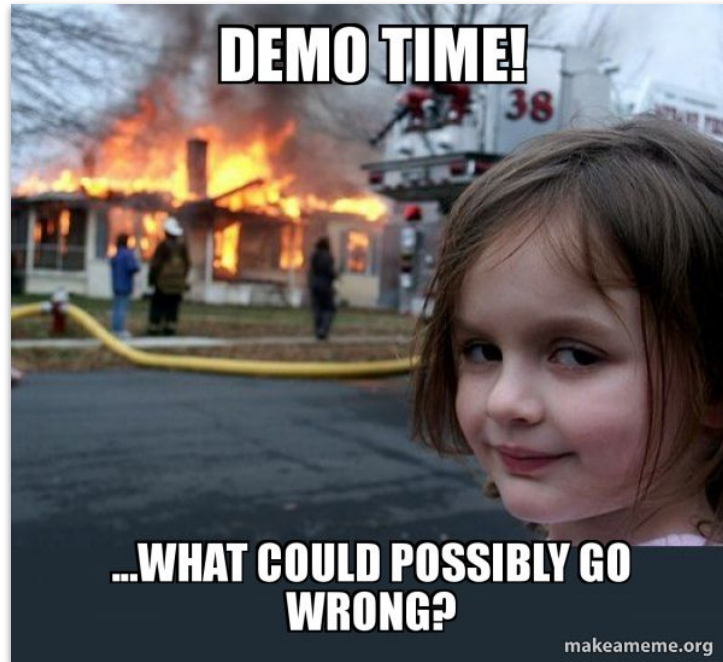


The screenshot shows a web browser window with the URL `tap.tacc.utexas.edu/jobs/status/75315/`. The page title is "TACC Analysis Portal" and the user is logged in as "jhpowell". The main content area displays "TAP Job Status" for a job named "hpcinthe-city-test". The status is "RUNNING", with a start time of "11/01/2023 10:12" and an end time of "11/01/2023 10:42". The refresh interval is "in 347 seconds". A message box contains the text: "TAP: Your session is running at `https://frontera.tacc.utexas.edu:60212/?token=LvuSWcx-l69szpg0rcfQx0o0mh_4FWZG7Ri3x91zCw`". At the bottom of the job status area, there are four buttons: "Connect" (green), "End Job" (red), "Show Output" (grey), and "Back to Jobs" (grey).



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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 **HackHPC**
Hackathons and Codeathons

QUESTIONS ??

Next Session:

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

Schedule:

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

Presenter Contact Information:

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The University of Texas at Austin
Center for Pandemic Decision Science

STAR
PARTNERSHIP PROGRAM

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SGX3
Extend. Expand. Exemplify.



VOLTRON DATA