



Google Cloud



globus online

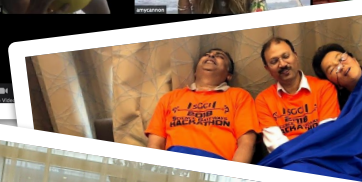
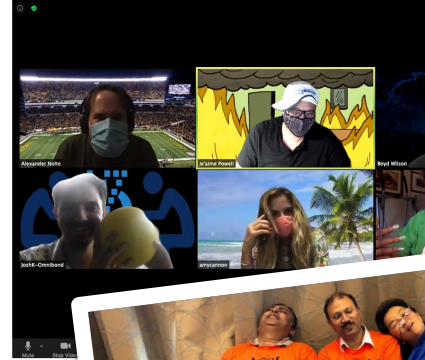


HPC in the City Mentor Training



SC20

Everywhere
we are | more
than hpc.



Introductions - Icebreaker



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Agenda

- Hackathon Objective and Student Outcomes
- Who are the Students
- Sample Project Timeline
- Deliverables and Resources
- Mentoring Information
 - Expectations
 - Challenges
 - Fundamental Principles
- Mentor Hack
- Mentor Techniques



The Objective of HPC in the City

The hackathon aims to harness the resources, skills, and knowledge found in the HPC community in an effort to provide applied exposure towards the conference host city's local 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 an understanding of an Atlanta based issue through application of data analysis/presentation or management.

Student Outcomes

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



Who are the students?

Student demographics
(Self-reported pre-hackathon)

Coding Experience (Scale: 1-5)	java	js	python	html/html5	django/ airavata	requests, json/xml	jupyter
mean	3.2	2.7	3.975	3.325	1.95	2.675	3.1

Students will have participated in these training sessions:

- Github/Slack
- Python/Jupyter
- Kaggle/Repl
- CloudyCluster and Google Cloud

While this is an intended baseline, we anticipate providing additional support



Sample Project Timeline

- Select a project
 - identify Milestones
 - identify possible logistical issues
- Deliver a project proposal presentation
- Regular check-ins
- Final presentation with deliverables:
 - Repo with code and data
 - Demonstration
 - Presentation
- Metrics for selecting a “winner”
 - Group collaboration
 - Project Viability
 - Project Impact



Student Deliverables and Resources

Deliverables:

- Source code Including Comments
- PDF of presentation
 - Team members with pictures
 - Use of HPC technology in the project
 - Regional (Atlanta) implications of the project
- Github Link
 - README.md project description

Resources:

- Google Cloud (Provided Credits)
- Cloudy Cluster
- Most Commonly Used
 - Python
 - Jupyter Notebooks
 - Node.js (JavaScript)
 - Repl.it (Collaborative Environment)
 - HTML
- Datasets (*Being Aggregated*)



What Can You Expect as a Mentor?

Your mentoring will be iterative

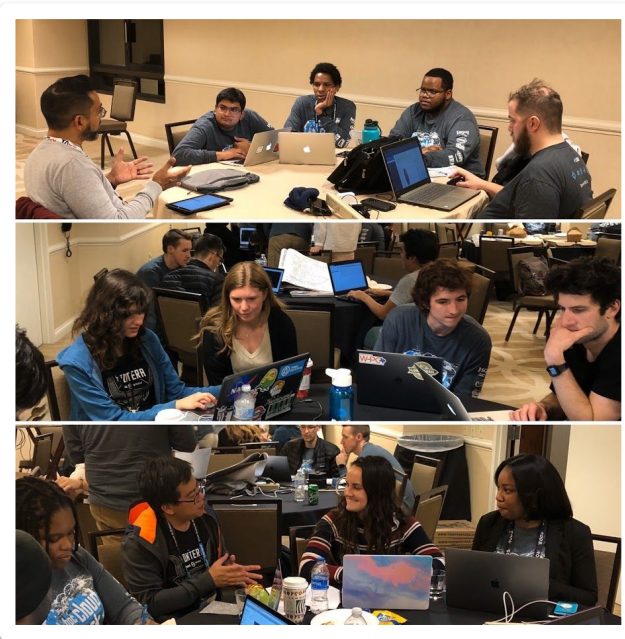
Your students will experience challenges, and so will you as a mentor

You can't solve everything in 48 hours



What Challenges Does a Mentor Solve?

- Imbalance in participation
- Project direction isn't viable
- Students are reluctant to drive the process
- Students just want the answers
- Morale decreases over time
- Students do not communicate



Fundamental Principles of Mentoring

- Observe the students, not the work.
- Be present, but not omnipresent.
- Use critical questions, not criticisms.



Your Task Today

Choose a Mentor Challenge, and describe a strategy you will use to address it

- What is the problem?
- What technique are you going to develop or use to tackle the problem?
(one sentence)
- Tell a story of ideally, how you think this will play out
- Collaborate and report out, with a presentation visual



Example Technique

Problem: How do you get feedback from your students, when they might be reluctant to criticize the type of help you've given them?

Answer: Like, Wish, Wonder!

Describe: Students write a short one sentence reflection about their learning experience, where they describe something they liked, something they wished, something they wondered. They will take turns sharing. All students participate. In doing so, students are given an opportunity to prepare an answer rather than being “put on the spot”, and any deltas come are reframed as “further questions” rather than frustrations



MENTORHACK (15 minutes)

Task: *We'll mentor you as you do it, but really good luck*

From the "*Issues in Mentoring*" slide pick one problem as a group and develop a technique to resolve it.

Deliverable:

One (1) slide and present the developed technique in one (1) minute.



Mentoring Techniques - Did you notice?

- Getting to know your participants
- Project purpose/goals
- Gamification
- Scoping the project
- Student guidance/counseling
- Student project roles and responsibilities
- Adjusting to student skill levels
- Critical questioning



Like, Wish Wonder this Training!

We walk through a post hack reflection using the “Like, Wish, Wonder” technique.



Questions and Concerns

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HPC in the City Event Site: <http://hackhpc.org/hpc/>

