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HPC in the City: *St. Louis*



HACKATHON

Mentor Training



Join the HPC in the
City Discord using
this QR Code!



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HPC in the City: *St. Louis*

A large, stylized green arch representing the Gateway Arch in St. Louis, positioned behind the text.

HACKATHON



Mentor Training

Introductions - Icebreaker



Charlie Dey (*TACC*)



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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**



<http://hackhpc.org/hpcinthecity>



The Objective of HPC in the City: St. Louis

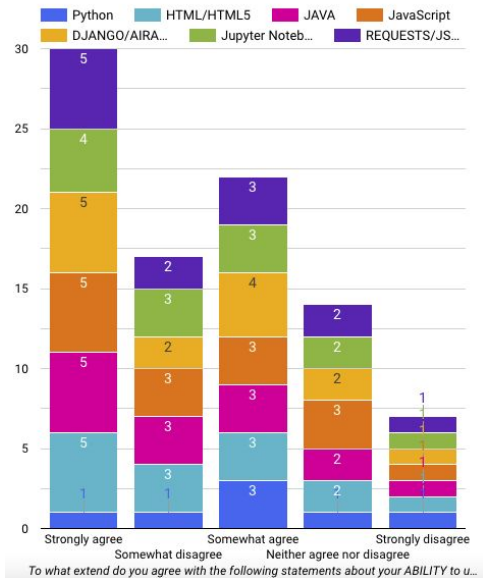
The hackathon aims to harness the resources, skills, and knowledge found in the HPC community in an effort to provide applied exposure towards students from 2-4 year post-secondary educational institutions. In short, the hackathon will provide HPC skills and training while targeting problems that directly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

- Develop knowledge about solutions to identified issues affecting St. Louis through application of data analysis/presentation or management.

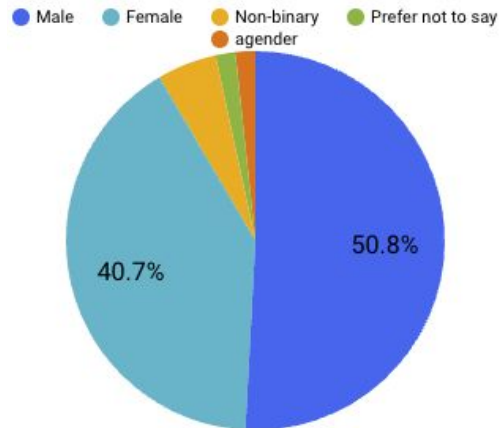
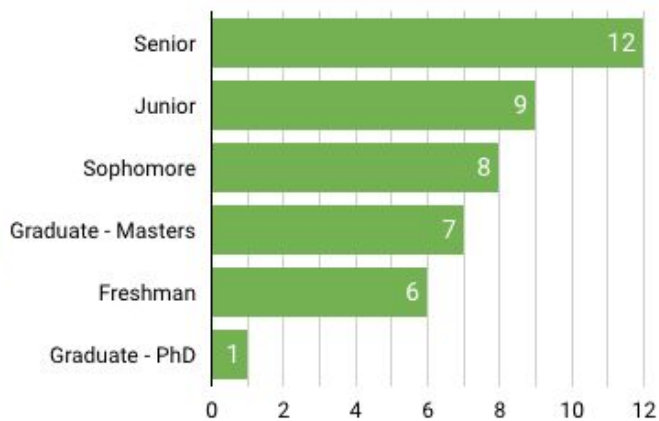
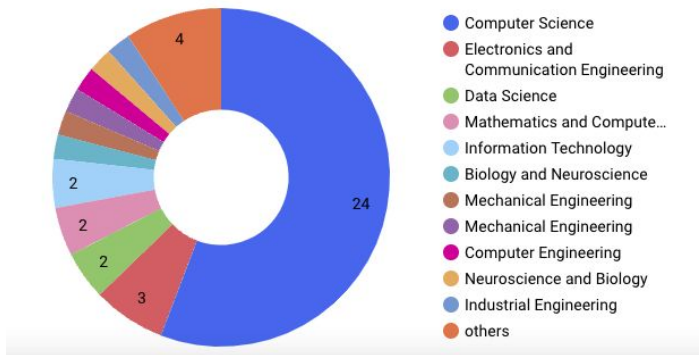
Student Outcomes

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

Who are the students?



MSI Participants
22



Sample Project Timeline

- **Select a project**
 - identify Milestones (Major/Minor)
 - 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”**
 - Project Impact
 - Viability / Usefulness
 - The creativity of execution /Wow-factor
 - UX / Polish
 - Technical complexity
 - Collaboration
 - Presentation
 - Completeness

Student Deliverables and Resources

Deliverables:

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

Resources:

- **Google Cloud (Provided Credits)**
- **Cloudy Cluster**
- **Most Commonly Used**
 - Python
 - Jupyter Notebooks
 - Node.Js (JavaScript)
 - Repl.it (Collaborative Environment)
 - HTML
- **Discord**
<https://discord.com/invite/rSXasYKDwE>



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Mentor Deliverables

- **[During Kick-off Meeting] 1 Slide-1 Minute describing your idea for a project**
 - Elevator pitch for your project
 - Students will use this to determine with which project they would like to work
 - **[Pro Tip:]** Keep it short and show your personality when presenting
- **[During Event] 1 minute or less Video introducing your team**
 - Include all team members, team name, and team project
 - Used for initial Viewer's Choice award presentation
 - Presented during the morning "Check In Session" of the final day.
 - *A cash prize will be awarded to the best video!*



What Can You Expect as a Mentor?

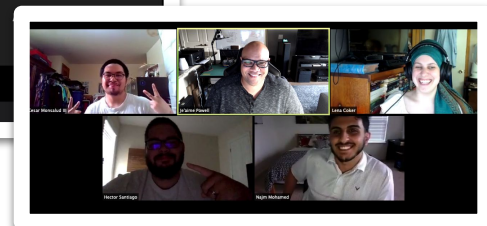
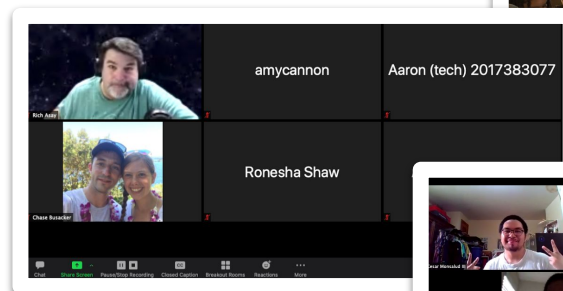
Your mentoring will be iterative

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

You can't solve everything in 96 hours! (*No really you CAN NOT!!!*)

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 (7 minutes)

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

From the “Common *Issues when Mentoring*” box 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.

Common Issues when Mentoring:

- 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

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!

Now to guide you through a post hack reflection using the “Like, Wish, Wonder” technique.

Each person gives:

1 - Like & 1 - Wish and/or Wonder

Audience if you agree, give the “snaps” or 👍

Questions and Concerns

Next Training Sessions:

- **DSC How to Design a Data Project** [10/5/21]
- **GitHub/Discord** [10/7/21]

Schedule:

<https://jeaimehp.github.io/HackHPC-HPCintheCity21/>

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