



Attendance



Club Linktree





Meeting agenda

Why us?

What is supercomputing? Intro dive

Student Opportunities

Calendar of events

Attendance check

Why us?



**Our mission is to increase accessibility
and awareness to supercomputing
(aka HPC, high-performance computing).**



We're here to..

Expose GT expertise

GT has a very strong presence
in the supercomputing research
community and industry!

Increase accessibility

We want to leverage these
resources and foster a welcoming
community for you to learn more!



Exposure

Supercomputing @ GT
Faculty Panel

Industry & National Lab
Guest Speakers

Discussions of Papers
or News Articles

Understand

~~Project track~~ WORKSHOPS!

Tech talks

Contextual talks





How to stay involved?

No dues.

Just attend meetings & events regularly.

Plug in

Fill out the Interest Form & stay in touch with our platforms: Discord, Instagram, Email Newsletter, LinkedIn Page.



“Projects??”

"*Projects??*"
NO!! Workshops.

Who are we?



Our Leadership Team!

President: Panya Bhinder

Vice President: Vansh Patel

Logistics Team

Sidney Wright

Jessica Lee

Gopesh Singal

Marketing Team

Naomi Eskinder Woudneh

Devanshi Sood

Curriculum Team

Aishwarya Anna Mathew

Amit Saha

Riley Corzine

Join our Team!

We are looking for students involved with the club who are passionate about building community!



Application is due **Saturday, January 18th at 11:59pm**

Interviews will take place next week!

What is supercomputing??

AKA high-performance computing (HPC)





What supercomputers do:

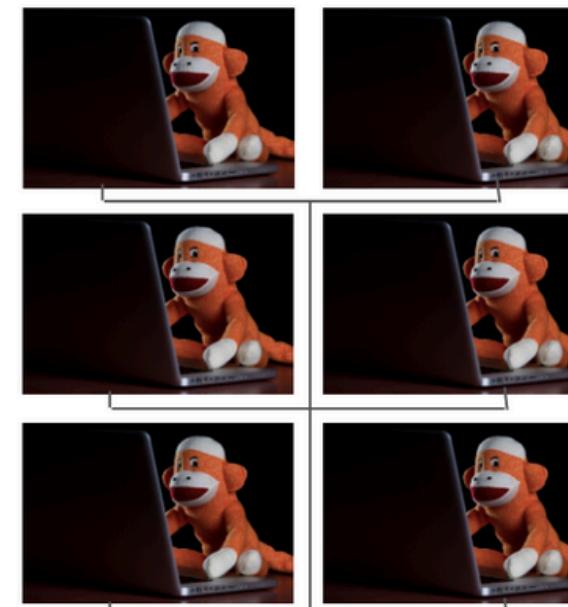
**Processing really really big sets of data
and/or intensive operations**

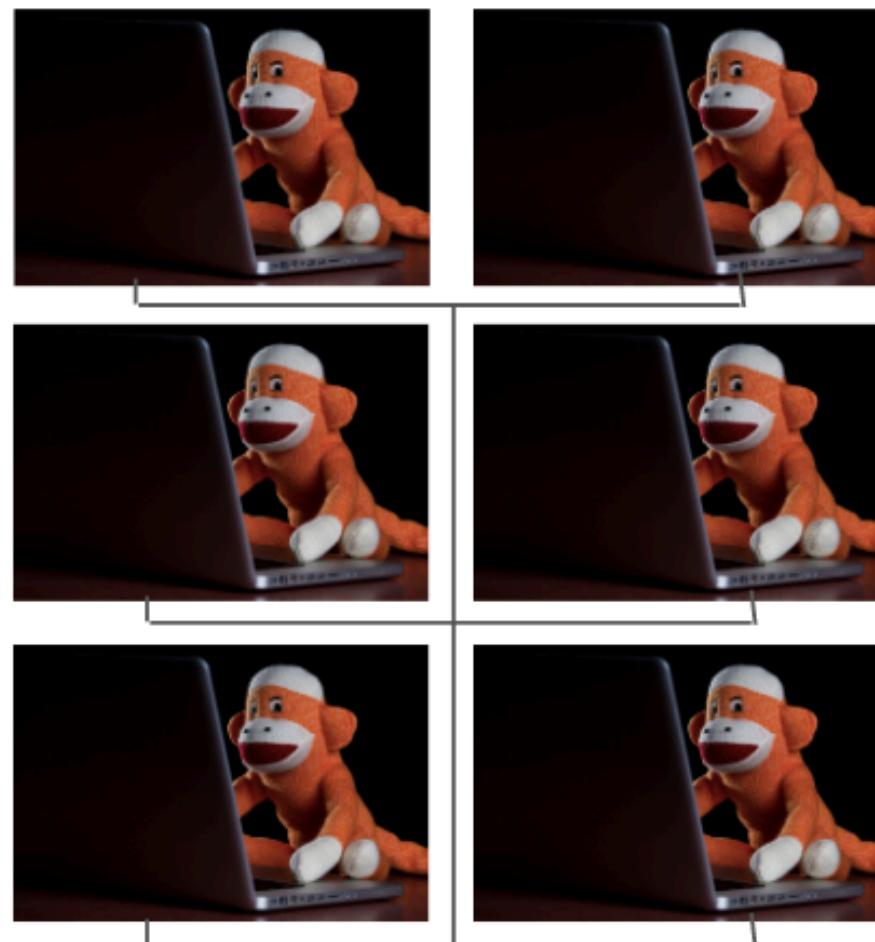
^ usually the normal computers can't handle this

Supercomputer...?

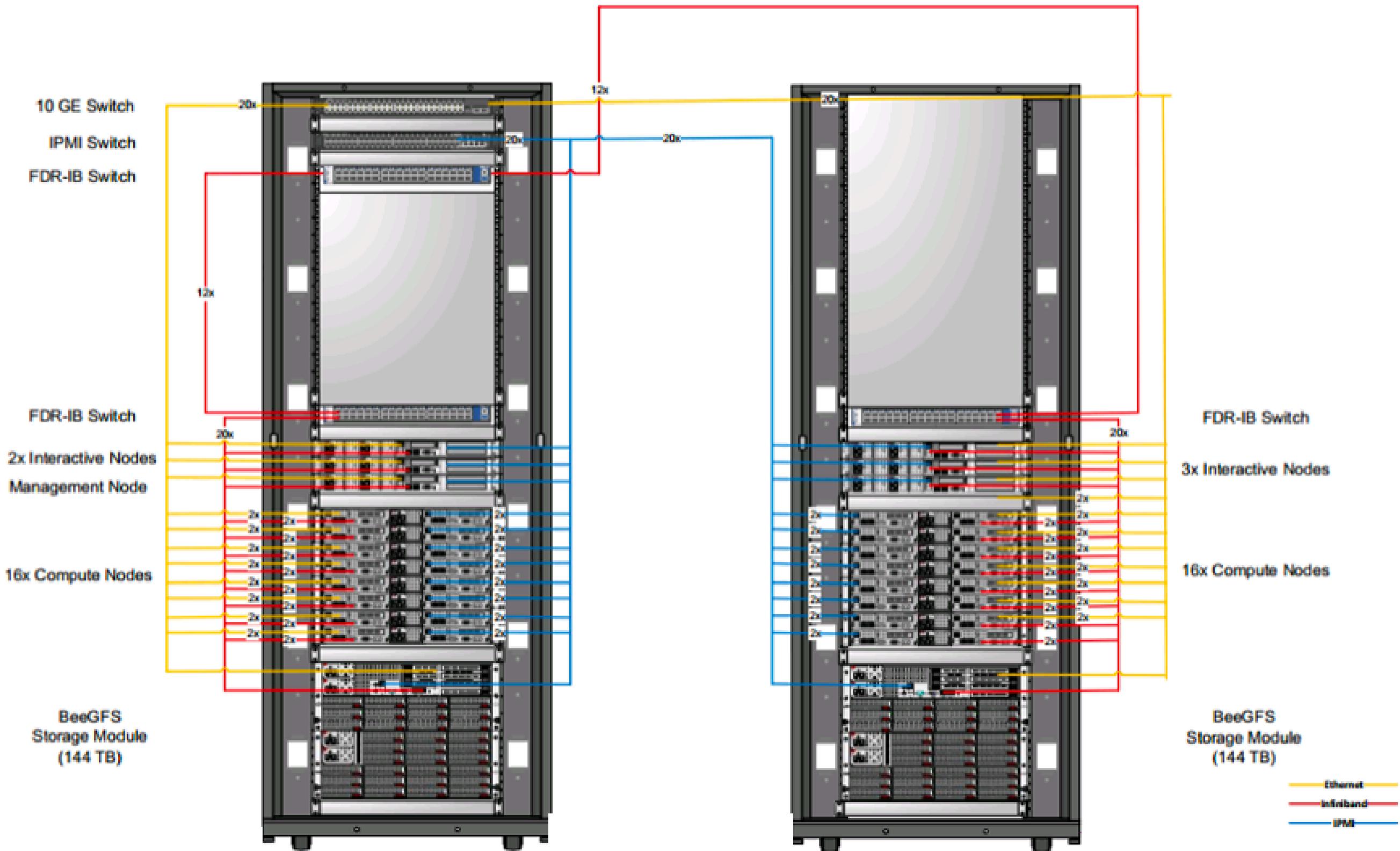
A really strong computer doing work.
A bunch of computers doing work for one thing

Compute nodes
+ network
= cluster!





Compute nodes + network = cluster!



Compute nodes + network = cluster!

The IBM Blue Gene/P supercomputer "Intrepid" at Argonne National Laboratory



human

Applications & Scale





It can be found in nearly every industry.

If a problem has an obscene amount of data or simulation, you can bet supercomputing is going to solve it.

If you name a field, you can probably find supercomputing

Biology

Physics

Chemistry

Engineering

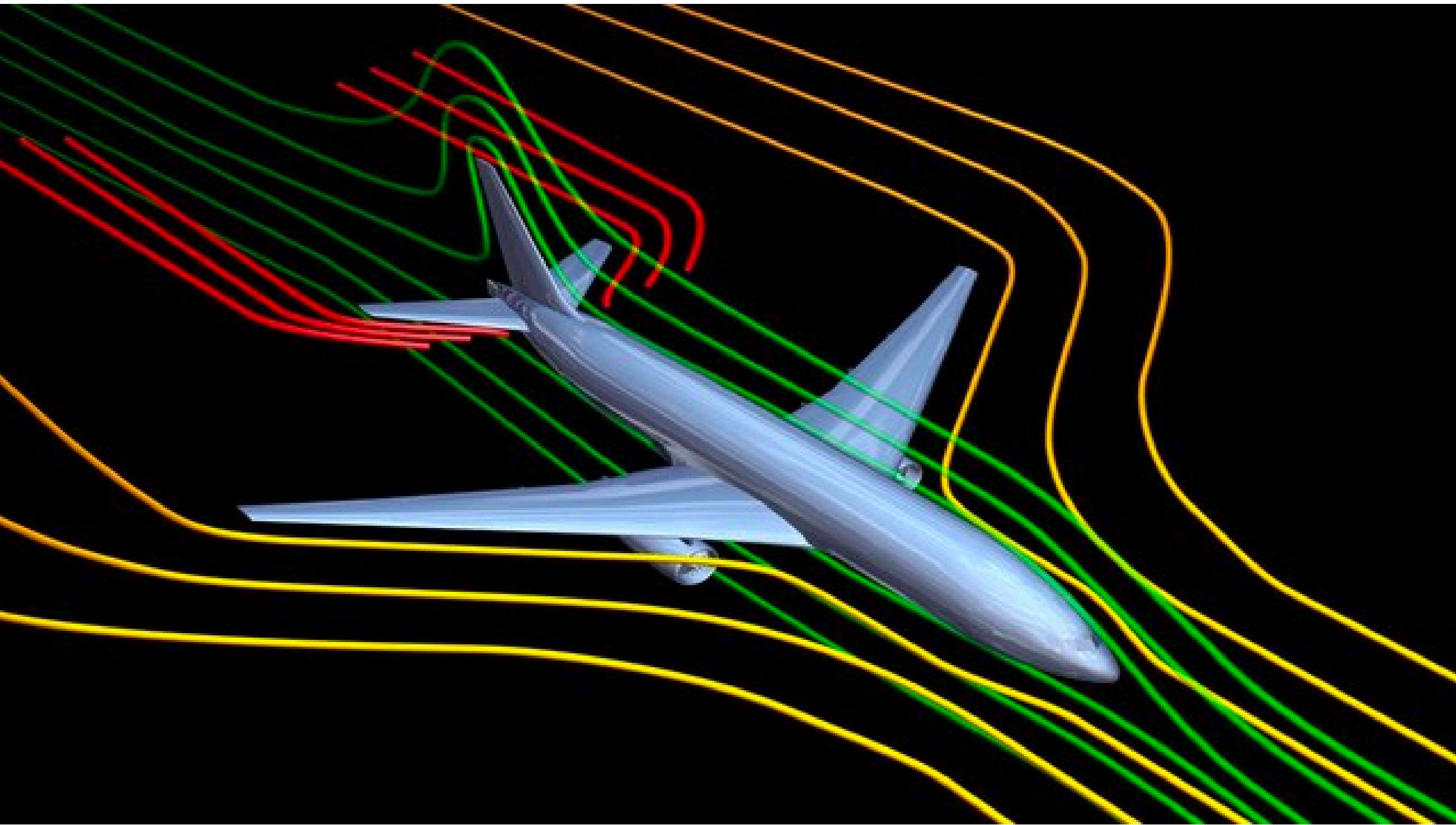
Aerospace

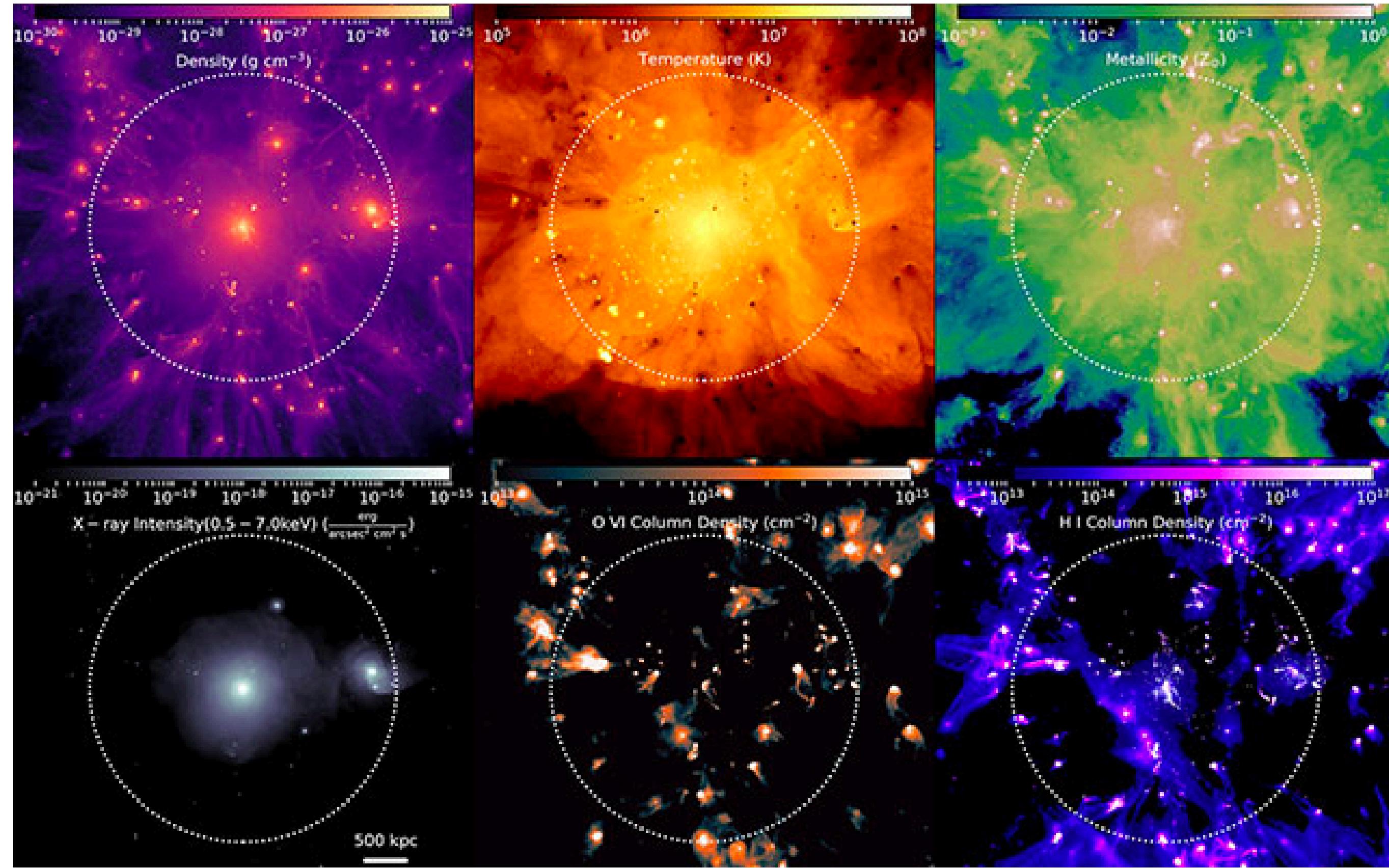
Finance

Cloud

AI/ML



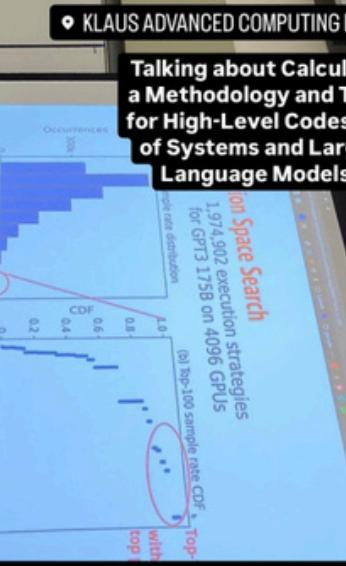




“Supercomputer Simulations Reveal Details of Galaxy Clusters”

Why us?





Student Opportunities in HPC





Georgia Tech

GT PACE Resources, VIPs, Courses, Research Labs

GT PACE



Partnership for an Advanced Computing Environment

pace.gatech.edu

[Home](#) | [How to join PACE](#) | [About](#) | [New Cost Model](#) | [Services](#) | [News & Updates](#) |
[User Resources](#)

Contact Us

Search



GT PACE

The Partnership for an Advanced Computing Environment (PACE) serves Georgia Tech faculty and researchers with a sustainable, leading-edge high performance computing environment.

- pace.gatech.edu

4 Main Supercomputing Clusters:

- Phoenix
- Hive
- ICE
- Firebird



GT PACE

- **Phoenix cluster** - Largest computational resource in PACE. It ranked #277 on the November 2020 Top500 (top500.org) list of world-wide supercomputers
- **Hive cluster** - Funded by the National Science Foundation (NSF)
- **ICE** - Instructional Cluster Environment (ICE) is an educational resource separate from production research resources
- **Firebird cluster** - Supports research involving Controlled Unclassified Information (CUI),



GT PACE

Learning Resources,
Tutorials

Link for tutorials:

https://gatech.servicenow.com/home?id=kb_article_view&sysparm_article=KB0042298

The screenshot shows a dropdown menu titled "User Resources" with the following items:

- User Resources
- Support
- Software Request Form
- PACE-ICE Request Form
- User Documentation
- User Orientation
- Consulting Session
- PAGE Trainings
 - Linux 101
 - Linux 102
 - Python 101
 - Intro to Machine Learning
- EVPR-PACESHIP Application
- Phoenix Cluster Utilization

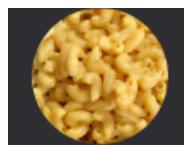
To the right of the menu, a list of courses is displayed:

- PACE Clusters Orientation
- PACE - OSG Orientation
- PACE Consulting Sessions
- PACE - Linux 101
- PACE - Linux 102
- PACE - Git 101
- PACE - Optimization 101
- PACE - Python 101: Intro to Data Analysis with NumPy
- PACE - Applications of Machine Learning
- PACE - Using Containers at PACE

GT PACE



Student Jobs - examples in #opportunities channel



macaaroni 01/08/2024 10:44 AM

PACE person here - we also employ undergrads for various roles, ranging from more sys-admin type stuff to super innovative (e.g. last summer we had UG students who (1) worked on a research network graph database and (2) explored the viability of scaling Omniverse and Mesh for digital twins). About half of our team are research faculty, while the other half are administrators, so we span a fair bit of coverage, and usually have at least 3-4 student workers per semester.



Marissa 12/13/2023 10:20 PM

one more tn -- Passing along info abt Graduate Research Assistant opportunity

The software team in the GT Campus Research Computing PACE center (<http://pace.gatech.edu/>) is looking for a self-motivated student to join as a graduate research assistant to join starting at Jan 1, 2023.

This research software engineer position will be responsible to:

1. build/maintain PACE central software (HPC/AI/ML) stack through software building automation and CI/CD

Upcoming Events

Energy Hack @ GT

2025

PACE MAKERSPACE WORKSHOP: REIMAGINING THE MOTIVE POWER OF FIRE AND MODERN MACHINES UTILIZING IT



RSVP here:



- Overview of the **state of computing and its demand for power**: how we got here and where we are going
- A look at some of the work on efficient and **sustainable computing** by GT researchers
- Introduction to **hands-on extracurricular**: explore a variety of **computer architectures**

Wednesday
January 15, 2025
3:00 PM - 4:30PM



Dr. Aaron Jezghani
(Research Scientist at
PACE Makerspace)



Andrei Bersatti
(PhD student)

Careers, Roles

Beyond GT



Types of Organizations

- National Labs
- Industry
- Academic Institutions
- Supercomputing Centers

<https://github.com/suco-gt/HPC-Internships>

Types of Roles

not encompassing

- Research
- HPC Engineer
- Cluster Engineer
- System Administrator
- Data Center Management
- Software (programming, optimization)
- Computer Architecture
- Networking
- ML Engineer
- Data Science



Types of Roles

not encompassing

- Product Marketing
- Product Management
- Technical Marketing
- Solutions Architect
- Sales



Conferences

Beyond GT: Academic and Industry Communities

The biggest, baddest

ACM/IEEE SC (“Supercomputing”) Conference

- held every year in the US (including ATL in 2024!)
- mix of research papers + trade show
- Over 13,000 attendees

ISC (International Supercomputing Conference)

- held every year in Germany
- about 2,000 attendees

NVIDIA GTC Trade show

Supercomputing Conference!



The image shows the homepage of the SC25 Supercomputing Conference website. The header features the SC25 logo with the text "ST. LOUIS NOV 16-21". Below the header, there are navigation links for PROGRAM, EXHIBITS, STUDENTS, SCINET, MEDIA, ATTEND, and a search icon. The main visual is a dark blue background with a radial light effect and the text "hpc ignites." in large white letters. Below this, the conference's name and description are displayed: "The International Conference for High Performance Computing, Networking, Storage, and Analysis" and "ST. LOUIS, MO · NOV 16-21". At the bottom, there are three call-to-action buttons: "WATCH PREVIEW", "BOOK HOUSING JUNE 3", and "REGISTER JULY 9". Logos for sponsors ACM, IEEE Computer Society, SIGHPC, and TCHPC are also present.

[HTTPS://SC25.SUPERCOMPUTING.ORG/](https://sc25.supercomputing.org/)



The medium, maddest

- IEEE IPDPS (International Parallel and Distributed Processing Symposium)
- ACM ICS (International Conference on Supercomputing)
- ACM PPoPP (Principles and Practice of Parallel Programming): programming techniques, some algorithms
- ACM PACT (Parallel Architectures and Compilation): mostly compiler work
- ACM SPAA (Symposium on Parallel Algorithms and Architectures): theory, algorithms
- ACM HPDC (High-Performance Distributed Computing): more oriented around cloud systems
- ICPP (International Conference on Parallel Processing): longest-running, covers all areas (apps, theory, compilation, architecture)

and many others...

Our mission is to increase accessibility
and awareness to supercomputing
(aka HPC, high-performance computing).

We want to develop a **community of**
Georgia Tech students interested in
supercomputing, and meaningfully foster
supercomputing education and
enthusiasm.



Spring '25 Upcoming Events

Sun Feb 2: Workshop 1 - GPU Programming

Tues Feb 4: Guest Speaker: Dr. Geoffrey Fairchild with LANL

Tues Feb 11: Grad Student Symposium: Datacenter Operations

Tues Feb 18: Georgia Tech HPC Faculty Panel



SUPERCOMPUTING @ GEORGIA TECH

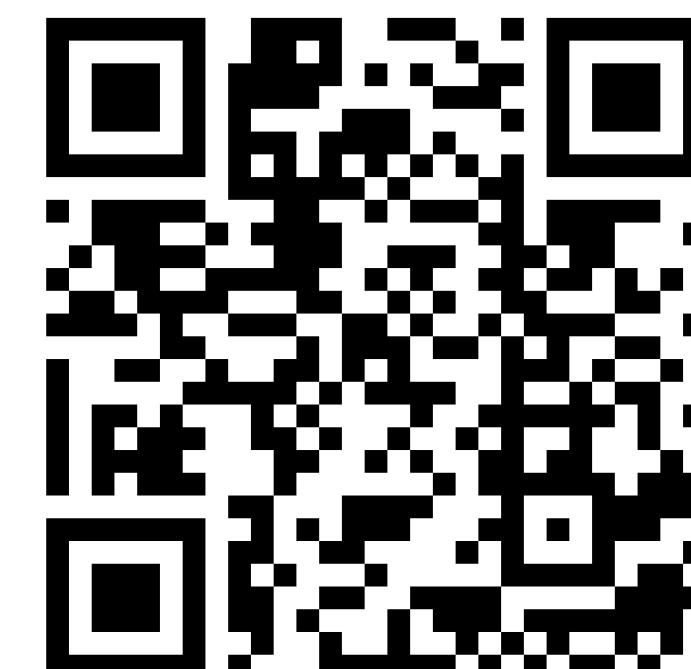
Attendance
do this RN! required.



Linktree



**Interest Form /
Mailing List**



END.

Reach out if you have questions
& see you next time

