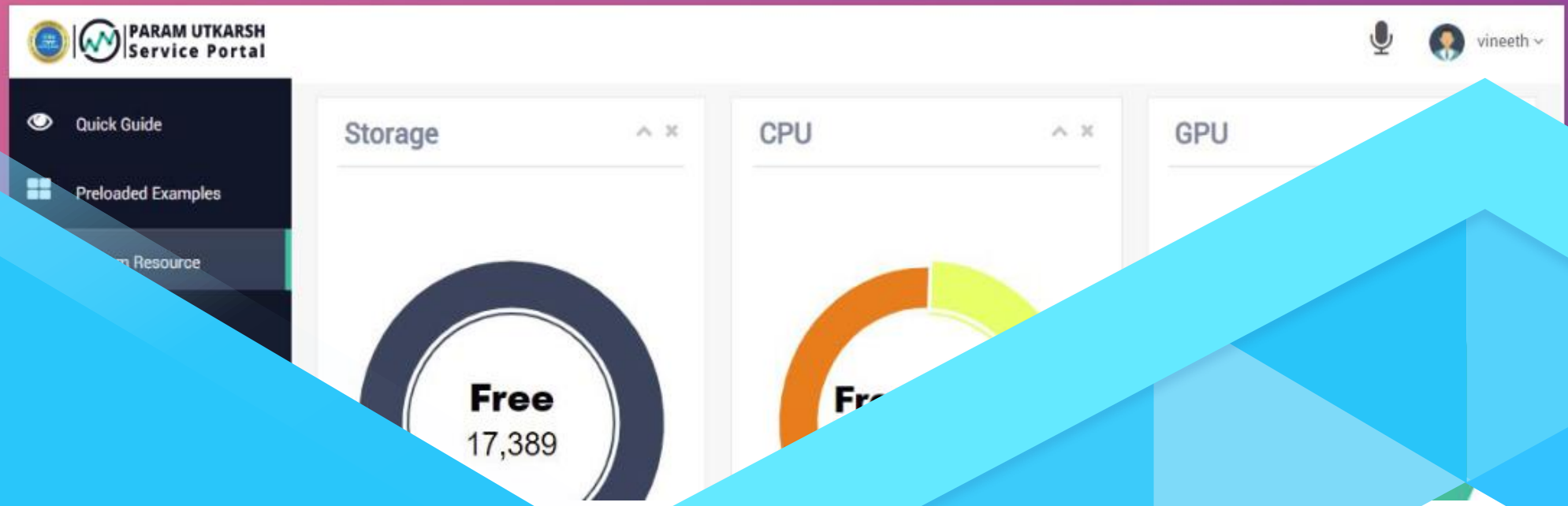
# One Portal. Multiple Services




SANTHOSH J
प्रगत संगणन विकास केंद्र
CENTRE FOR DEVELOPMENT OF ADVANCED COMPUTING

## HPC Dashboard

Making HPC simple

# High Performance Computing (HPC)

High-performance computing (HPC) supercomputers provide unprecedented computing power for diverse range of scientific applications.

HPC is the use of parallel processing for running advanced application programs efficiently, reliably and quickly.

**HPC Applications…**

“Out of intense Complexities, Intense Simplicities emerge”

Understanding complex HPC environment

Multiple endpoints making it difficult for user to find & use

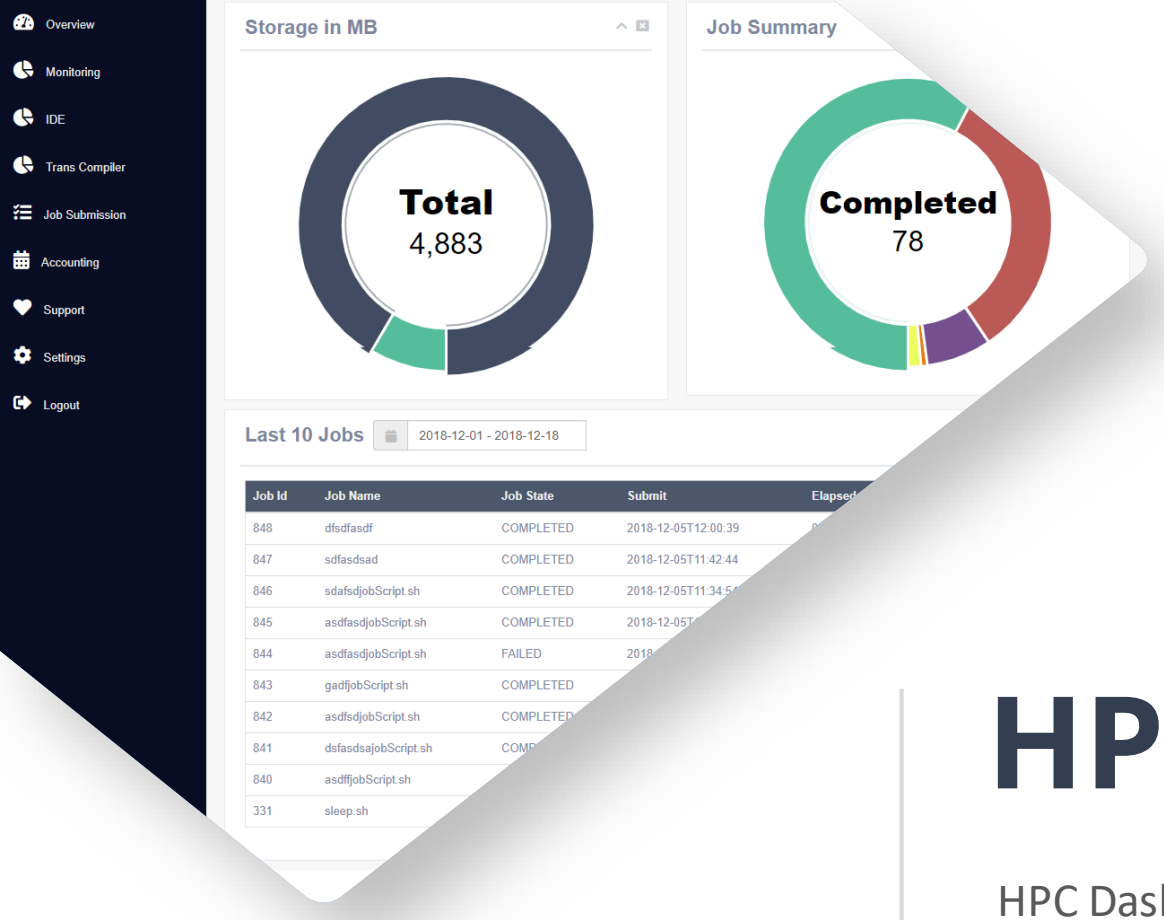
Time to Solution

HPC management is inherently complex

End-users have a deep scientific knowledge in their domains but not necessarily in HPC

Being continuously connected is becoming important in HPC.

**Making HPC Simple & Smarter >>**




# About

# HPC Dashboard

HPC Dashboard hides the complexities of high performance computing (HPC). It has a rich, easy to use interface for end-users and administrators, designed to increase productivity through its visual web-interface, powerful job submission and management feature, remote visualization, accounting & reporting, secure web console, file manager, administration panel and other workload functions

# Before & After

| | |
|---|---|
| • For a user, HPC is a big learning curve | • HPC Dashboard simplifies the user's access to HPC resources and hides all the complexities. |
| • No single point of access | • HPC Dashboard provides a unified interface to access all services in HPC. |
| • HPC Administration is time consuming & painful. | • An easy to use interface allows administrators to manage HPC resources remotely. |
| • Visualization of large data sets is expensive. | • Integrated remote visualization allows exploration of huge data sets directly within HPC Dashboard. |
| • Most HPC portals are not mobile friendly | • Responsive design & use of Progressive Web App technologies allow users to access HPC on the go using any device, from anywhere and at any time. |

# Features & Innovations

- Personalized Dashboard
- Mad Libs Job submission
- Interactive Voice Assistant
- Secured Web Console
- Advanced File manager
- Progressive Web App
- Remote Visualization
- Resource Administration
- Single Sign-On
- Accounting & Reporting
- Integrated Help Desk

# Cost Benefit

**Save time**

With HPC Dashboard, it's easy to submit Jobs and manage data, thanks to powerful GUI with smart & simplified interface

**Improves Productivity**

Researchers can focus on their problems and not get bogged down by complex IT tasks

**Low Cost**

Spend more on infrastructure & spend less for managing it!

**One tool for all needs**

Consolidate access to applications and extract more value from your software investments.

# Conclusion

Worldwide HPC revenue expected to reach over $49.9 billion by 2027

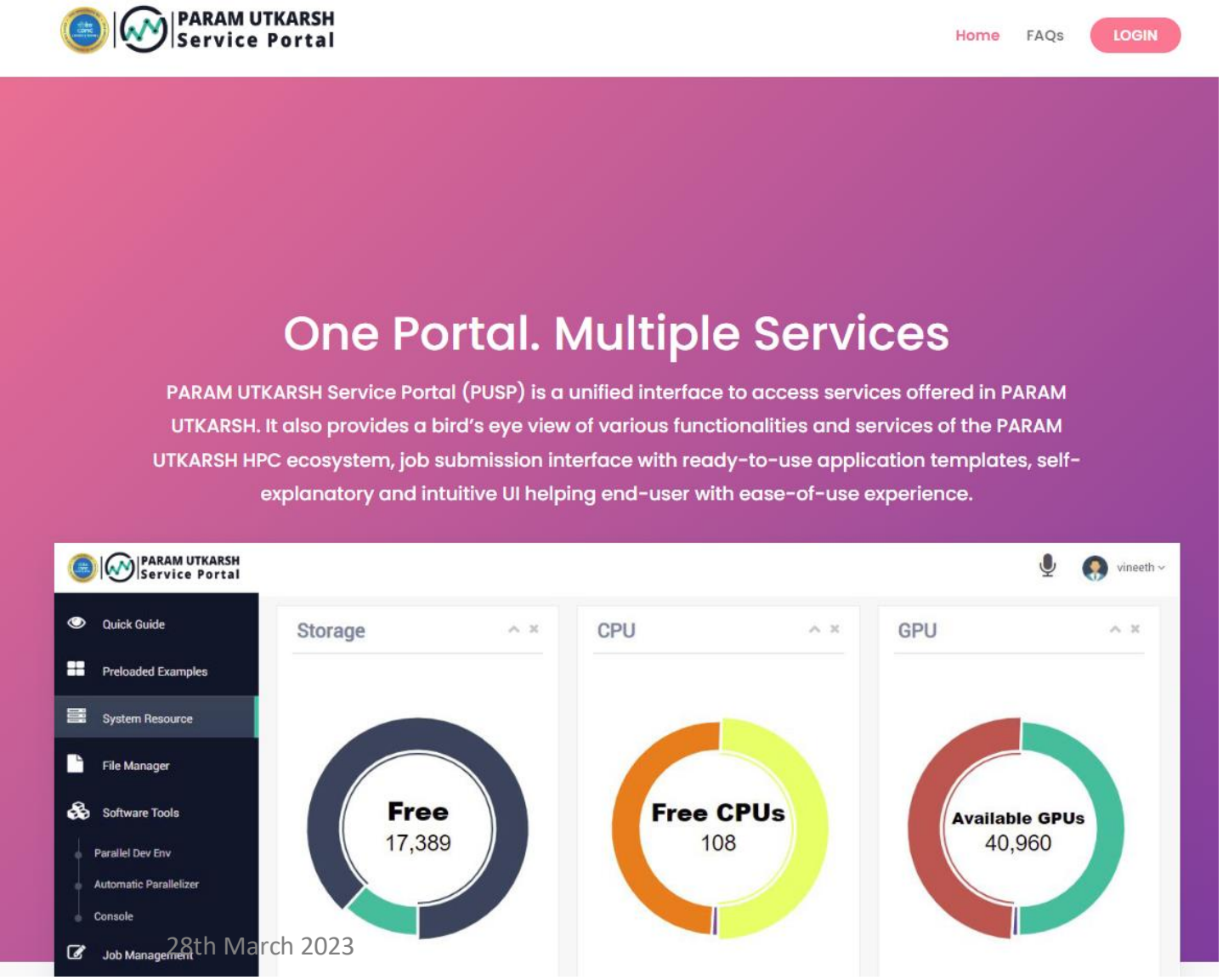
"There is an entirely new class of users who do not know they are using HPC. We call it 'implicit HPC.'" – Raj Hasrah, VP & GM

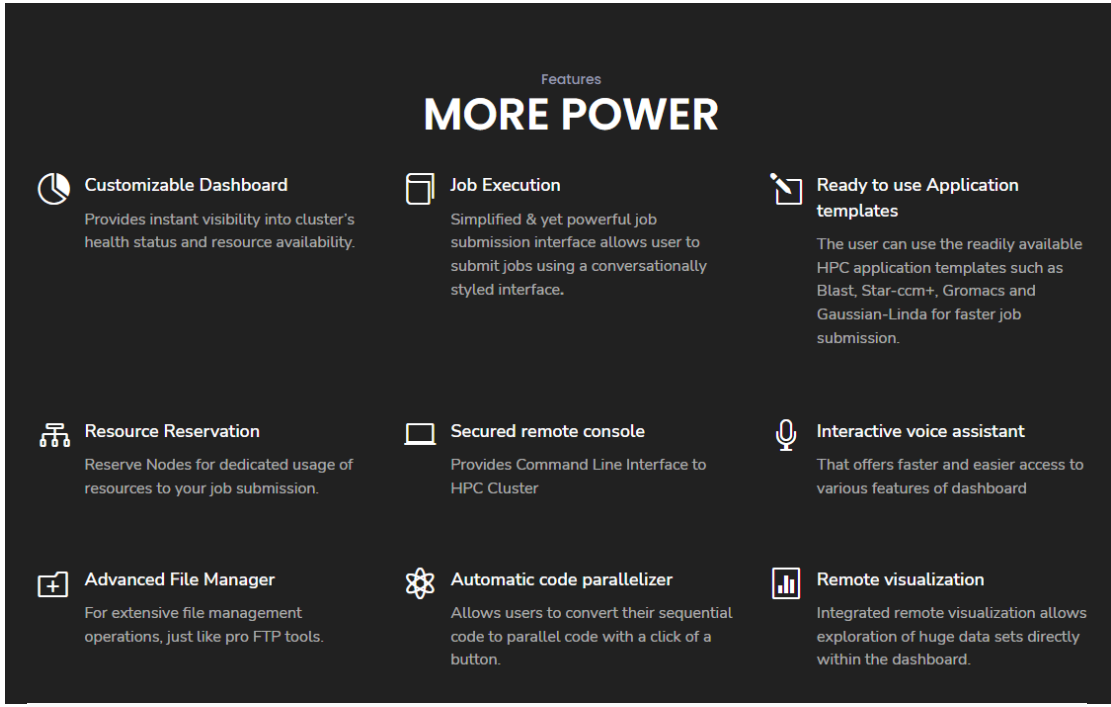
DA, DL, ML and HPC requirements tend to converge

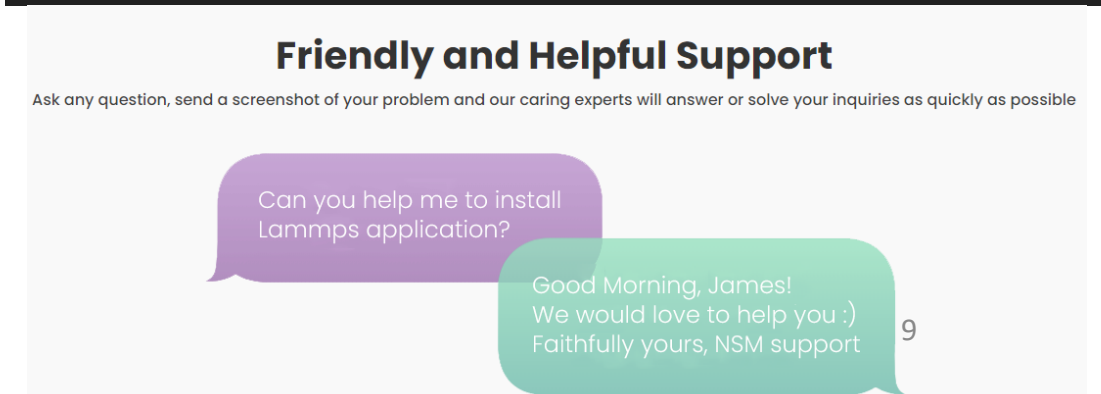
We anticipate that current HPC portals will soon evolve to address all of these domains

**HPC Dashboard** is a step towards it!

# Screenshots



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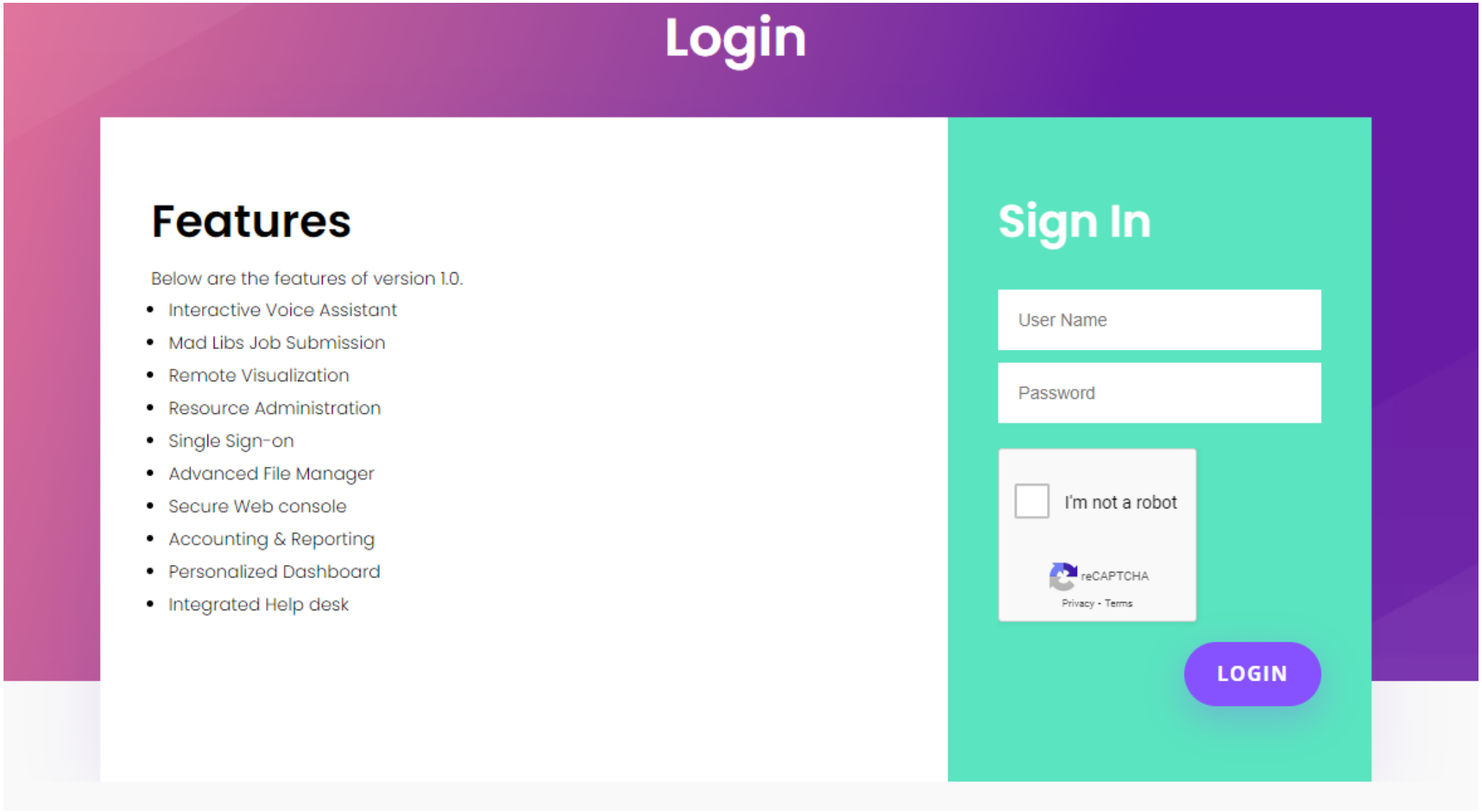

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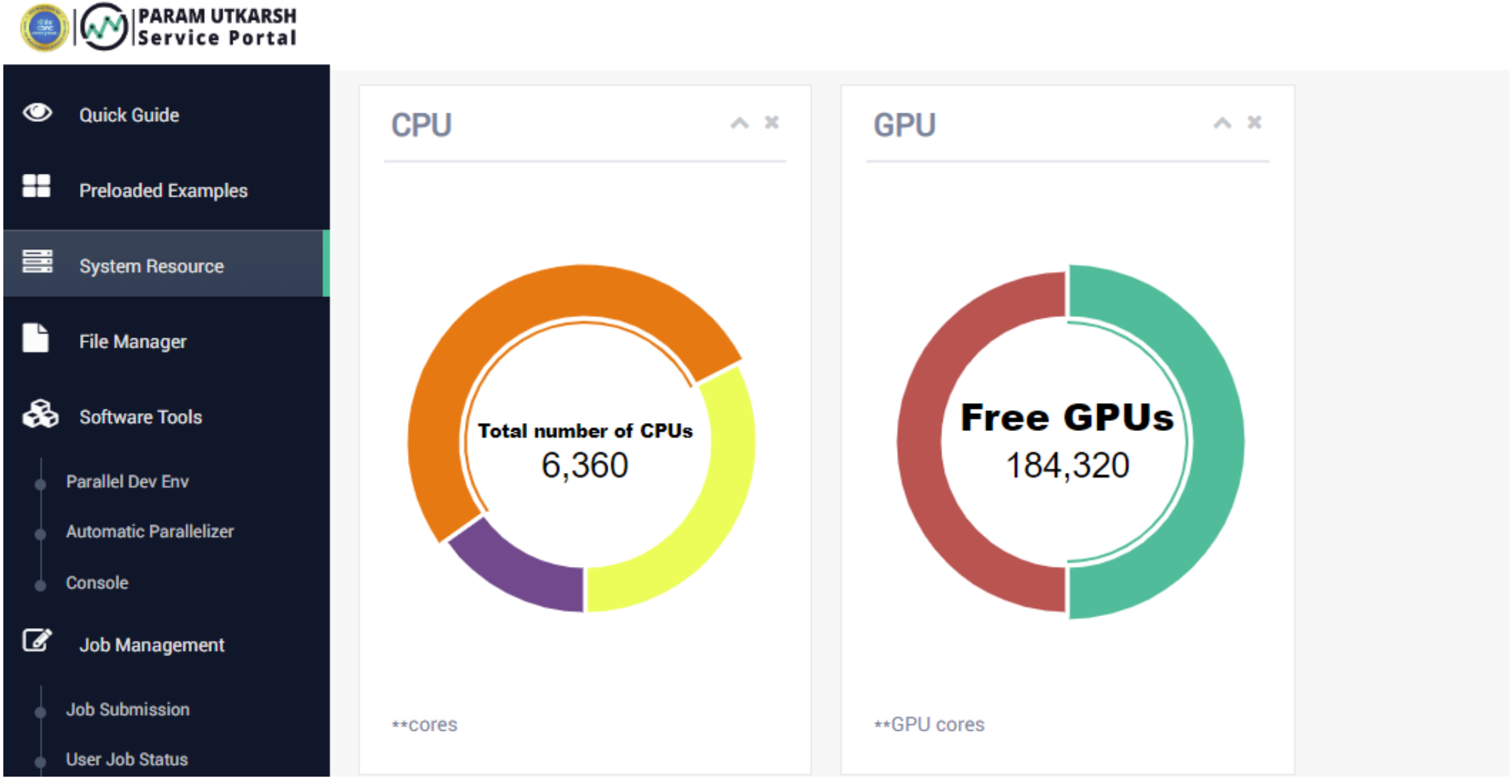

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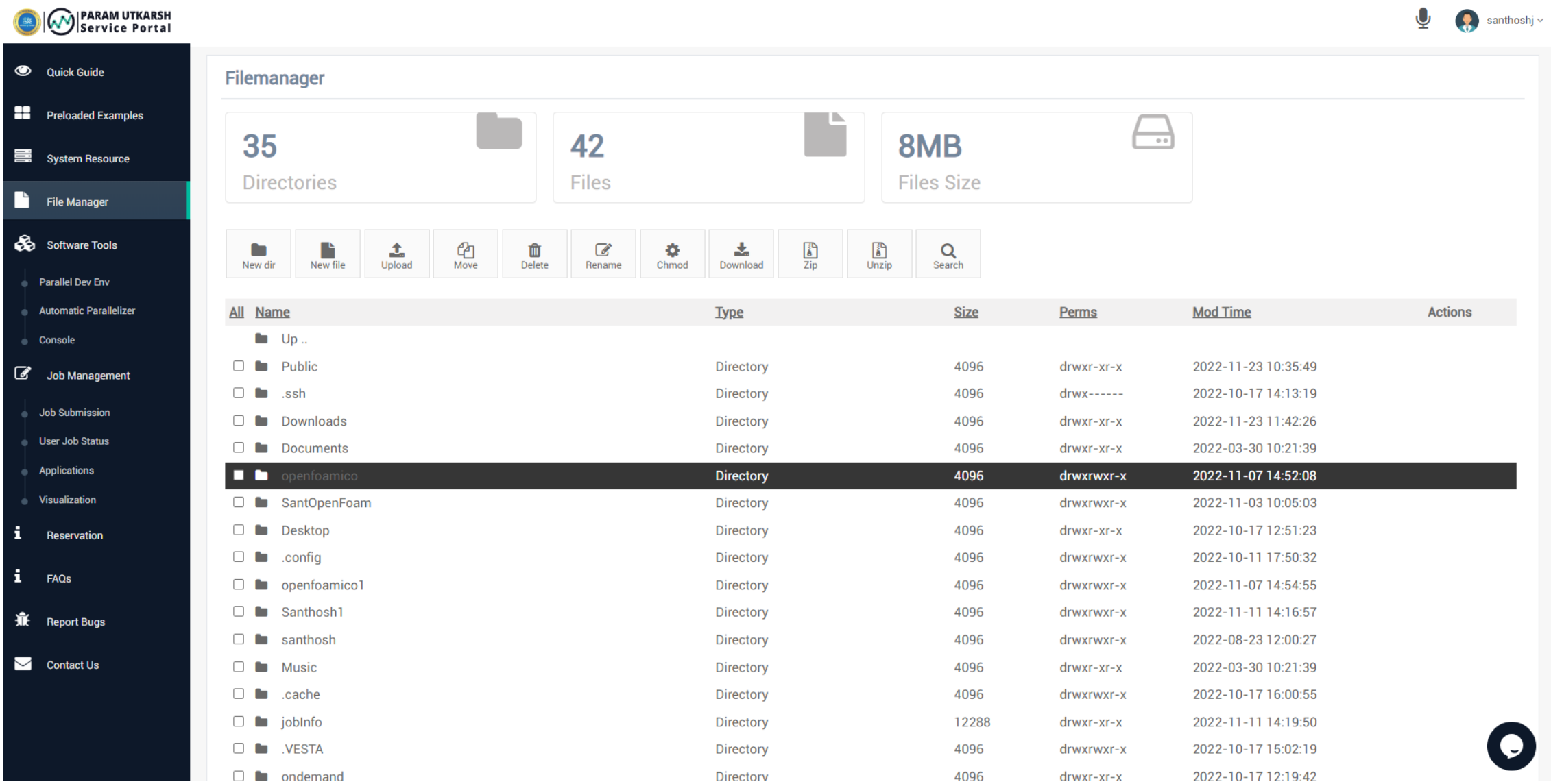
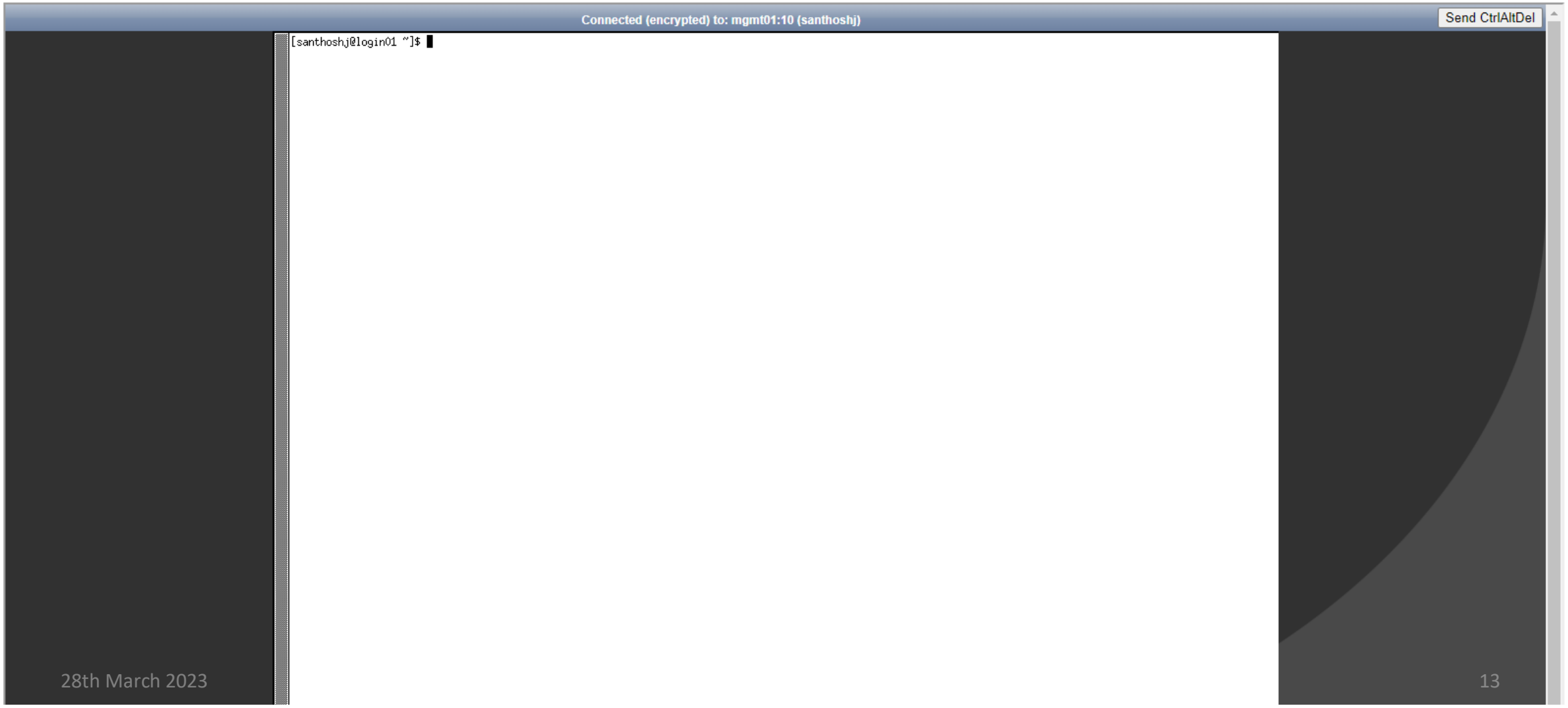


# Screenshots

Remote console



# Screenshots

## Mad Libs Job Submission

I'd like to submit Parallel job with 2 no. of process using exec from Cluster caco3_water-1.restart

Submit

## Advanced Job Submission

Application Template
Generic Molecular Modeling NAS Benchmark BT

Job Name

Job Type
Parallel Hybrid Hybrid MPI Sequential

Resource selection (Partition: Queue and Node info)
gpu gpu[003,006-009]

No. of Process

Reserved Resources
Not Reserved Advanced Reserved Resources

Wall time (Hours:Minutes)
70 10

Executable
Cluster From desktop

## Overall Job Status

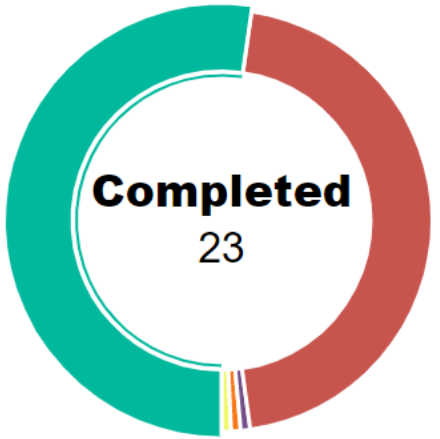
2022-11-01 - 2022-11-30

Running | Completed | Failed | Pending

Click for more details of the job

| Job Id | Job Name | Submit | Download |
|---|---|---|---|
| Data is not available | | | |

## Job Summary



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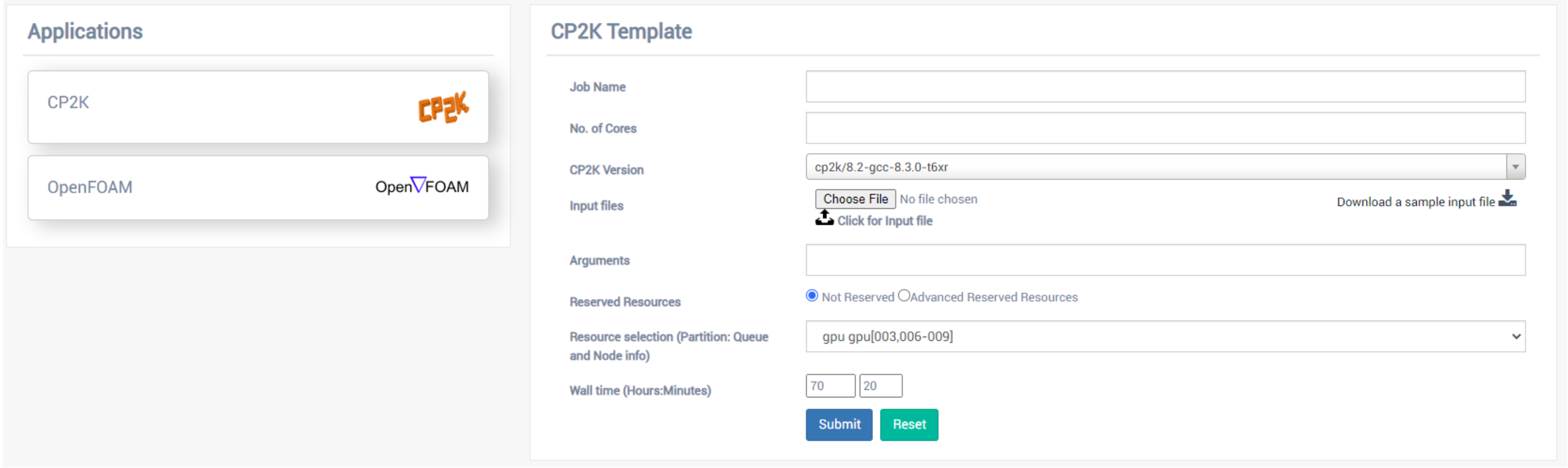
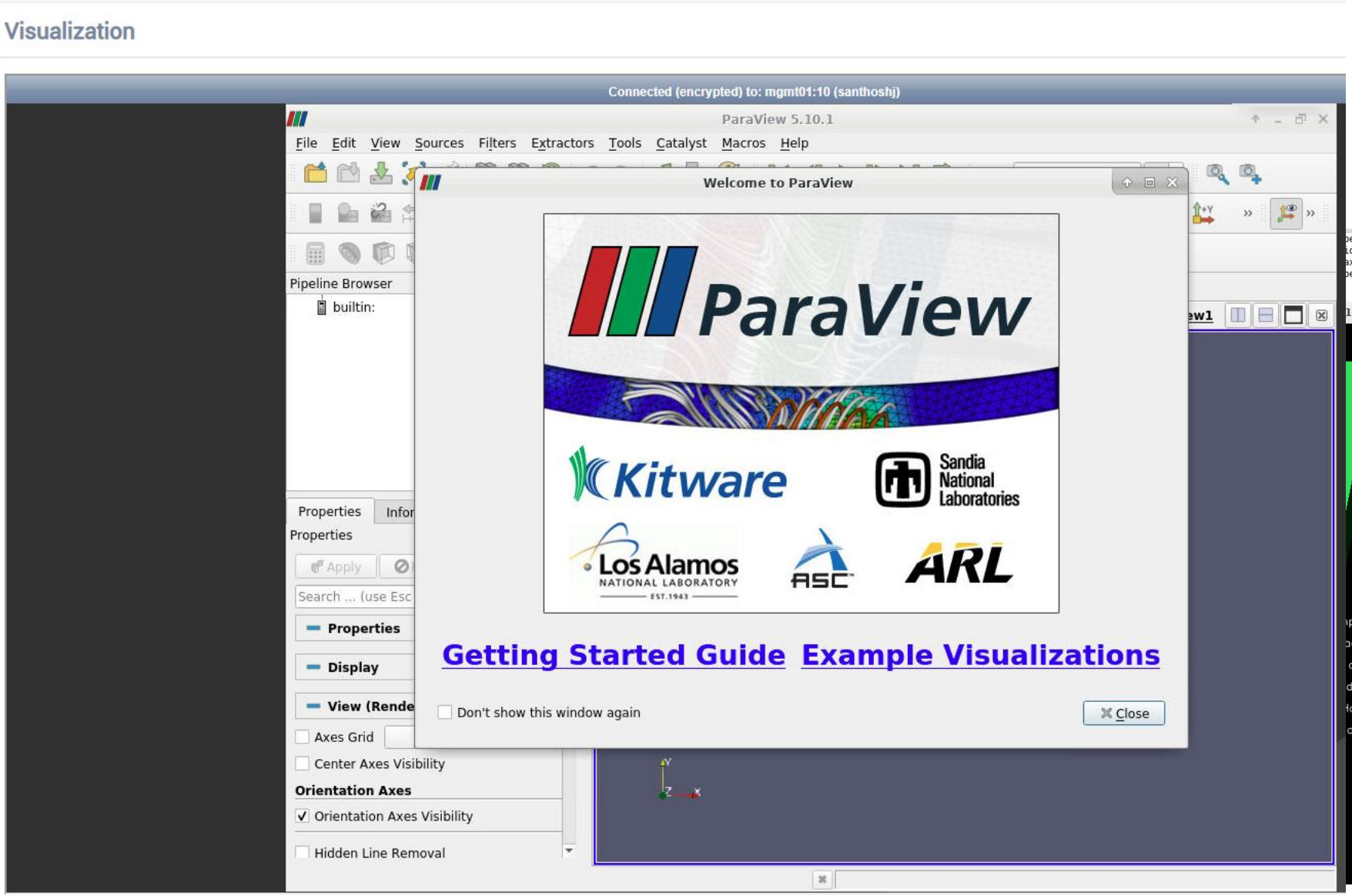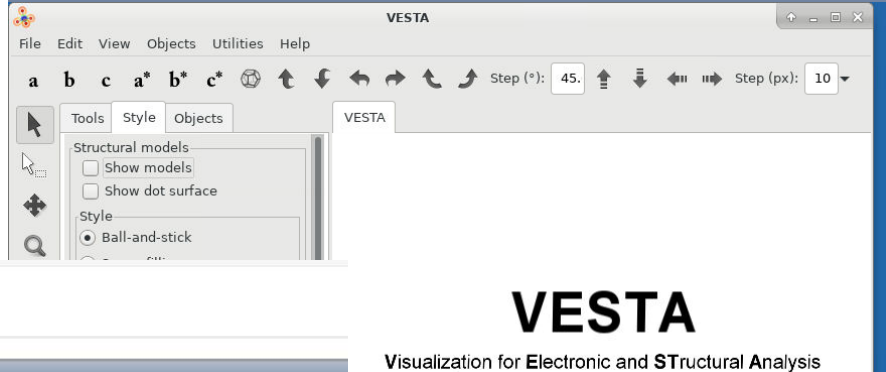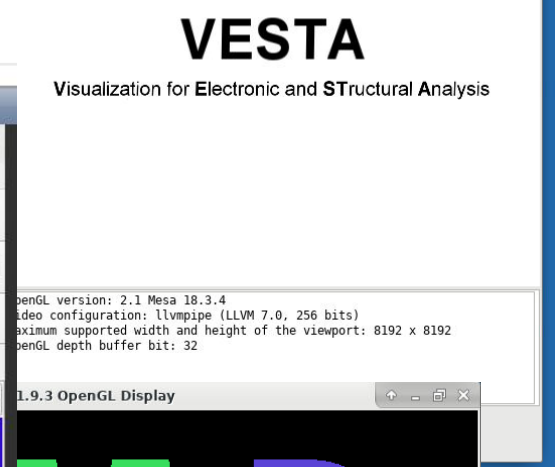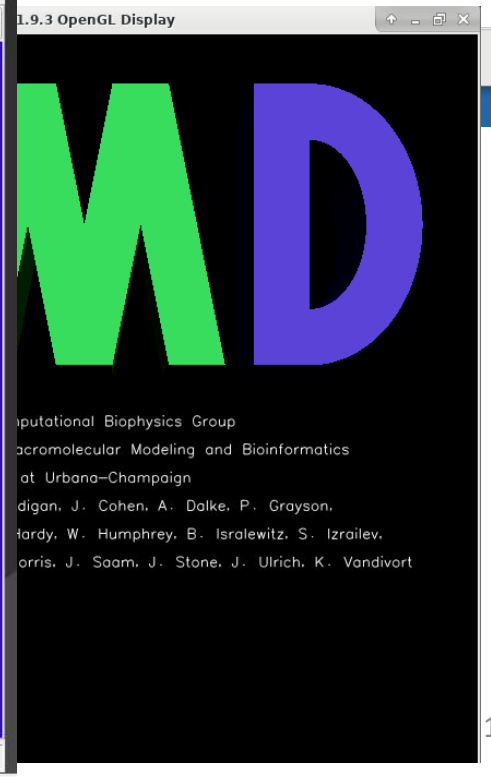
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