CloudBank

Managed Services to Simplify Cloud Access for Computer Science Research and Education

NSF Award: 1925001

PRAGMA 39
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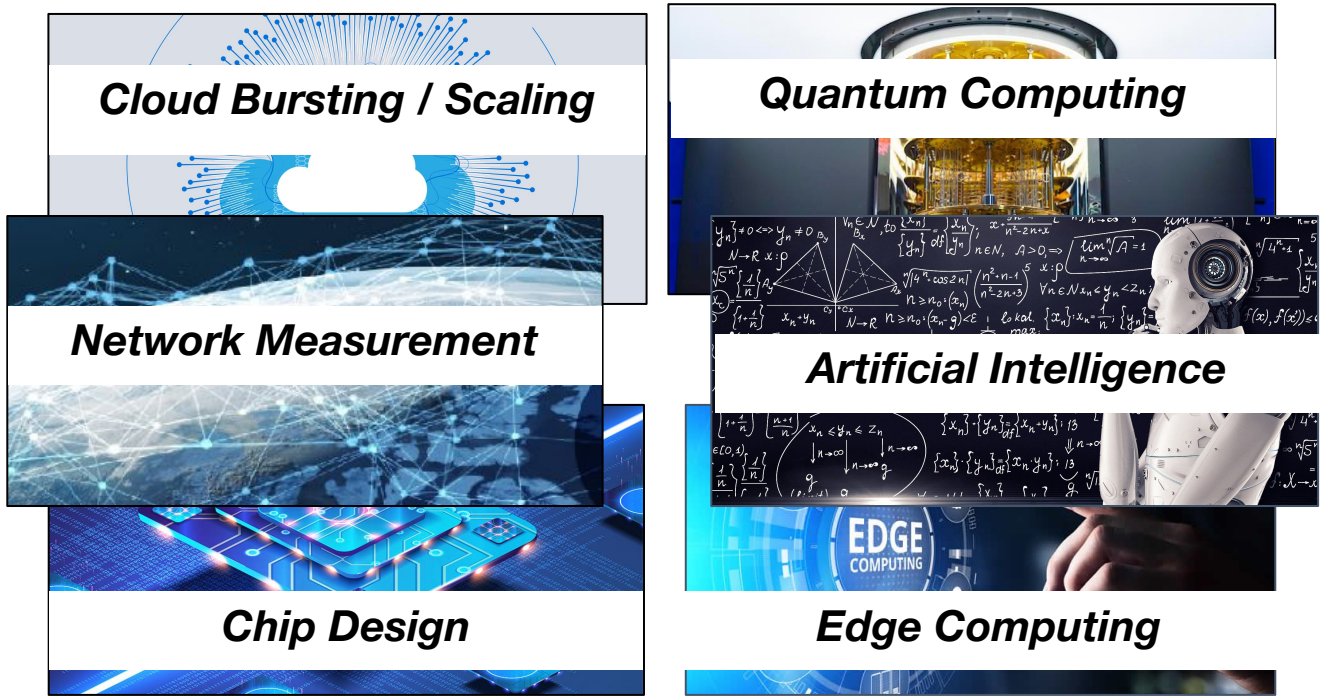
Introduction

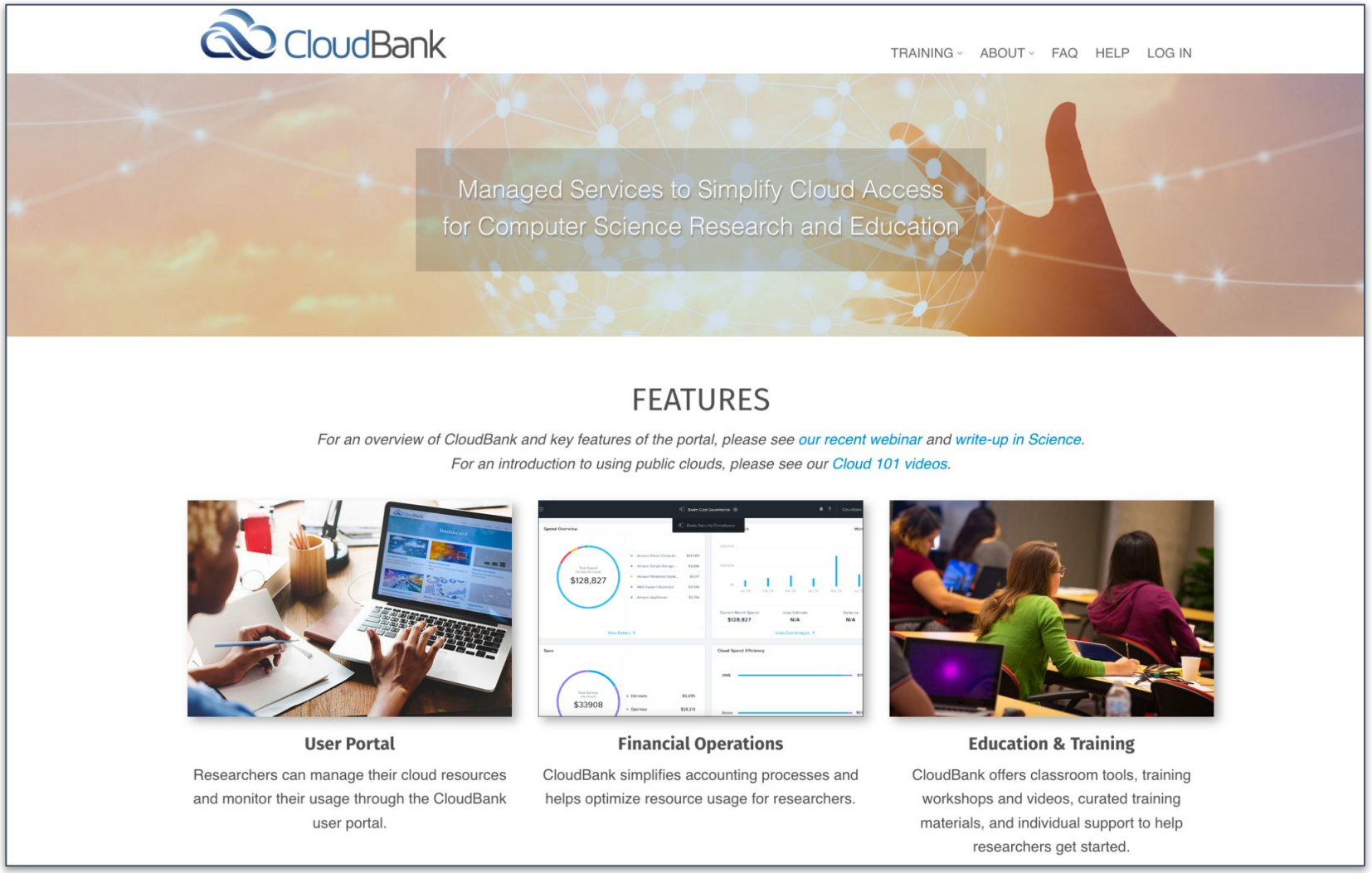
- 5-year pilot project funded by the National Science Foundation (US)
- Collaboration between UC San Diego/SDSC, Univ of Washington, UC Berkeley, and Strategic Blue
- Response to a NSF solicitation released in 2018 calling for a “CloudAccess” entity
- Started in August 2019 (currently in year 4)

CloudBank

Public Cloud Case Studies



http://www.cloudbank.org



aws

Google Cloud

IBM Cloud

Microsoft Azure

ORACLE CLOUD

CloudBank uses a *multi-cloud*, *pay-per-use* model

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Training: Introduction to Cloud

Thinking Cloudily

Costing

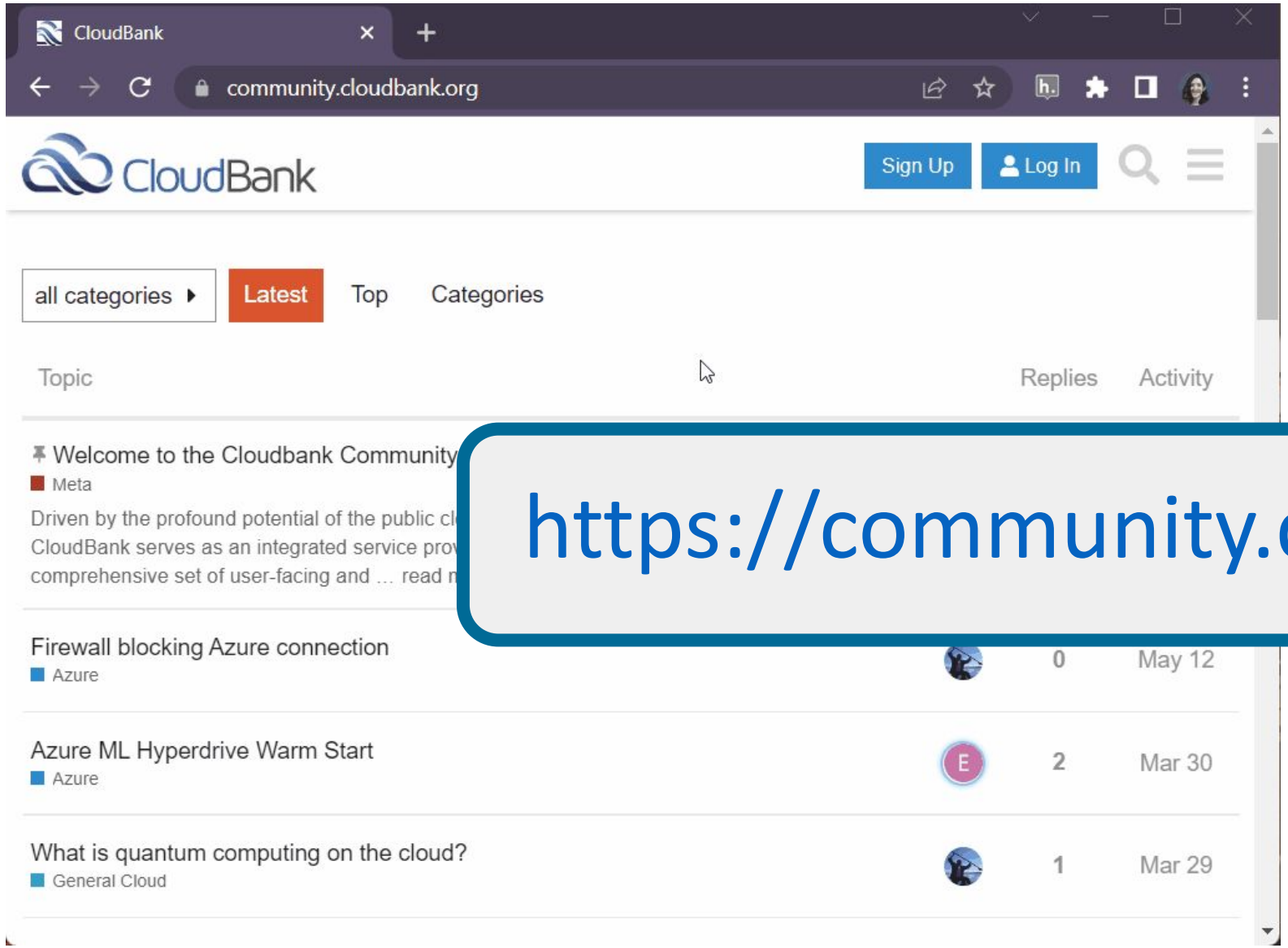
Cloud Services

Collaboration

Security

Scale

https://cloudbank-project.github.io/cb-resources/cloud101/

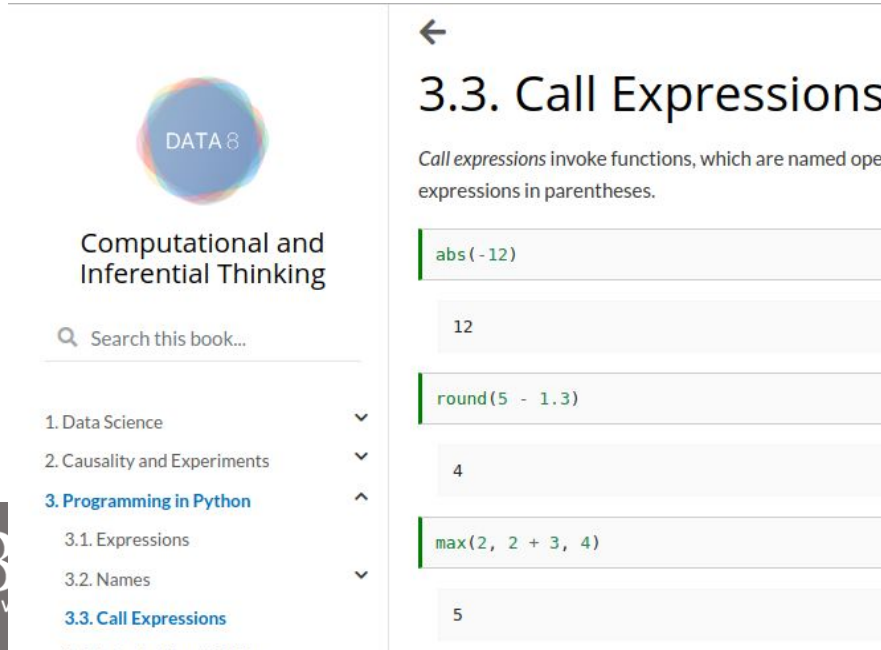


https://community.cloudbank.org

Teaching in the cloud - Data Science @ Berkeley

- Curriculum based around interactive Jupyter notebooks

- Students can do homework and lab assignments from any internet-enabled device
- UC Berkeley 10,000 students per month on server
- Data 8 - 1500 students in class
- Integrated auto-grading tools



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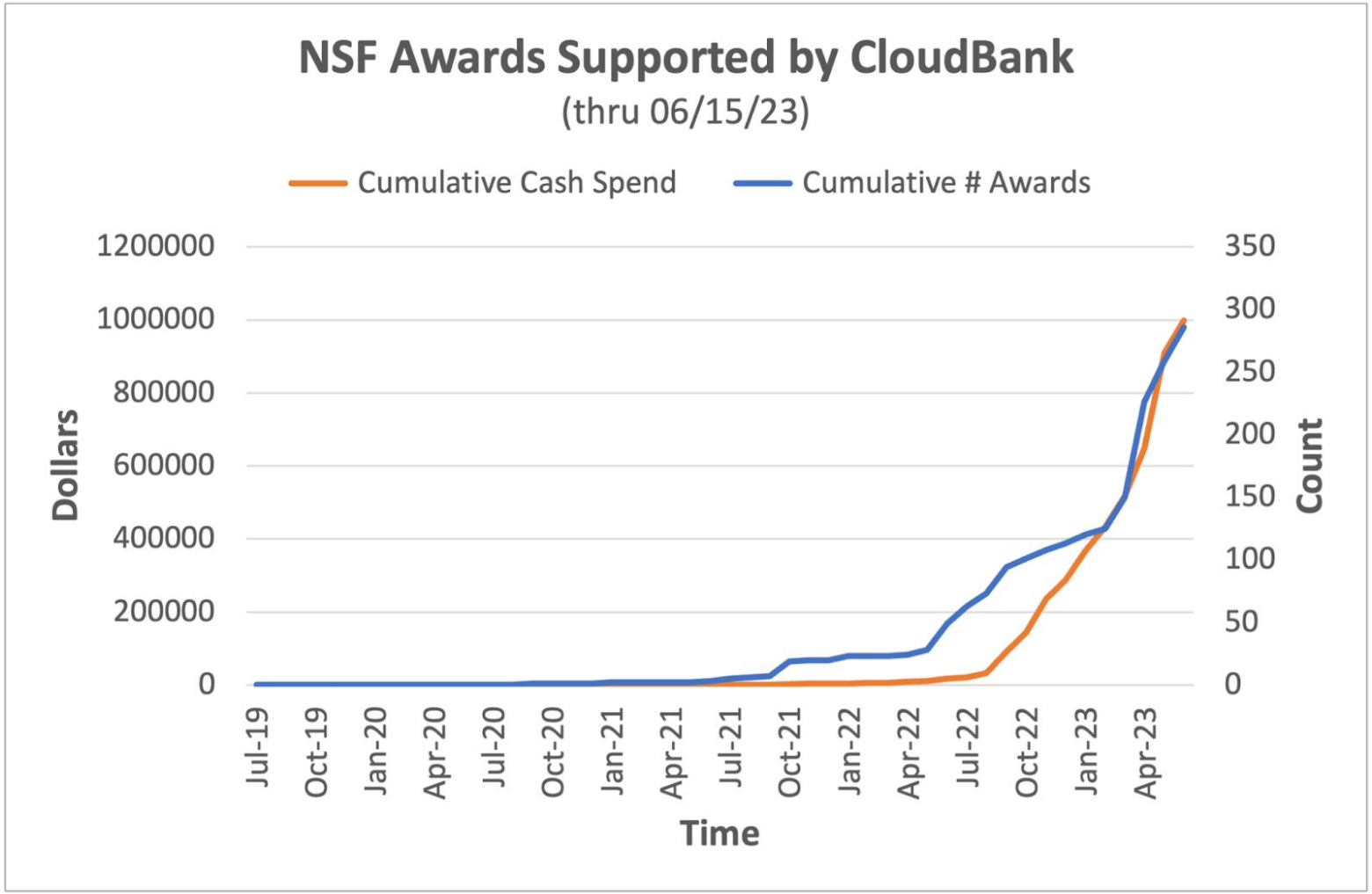
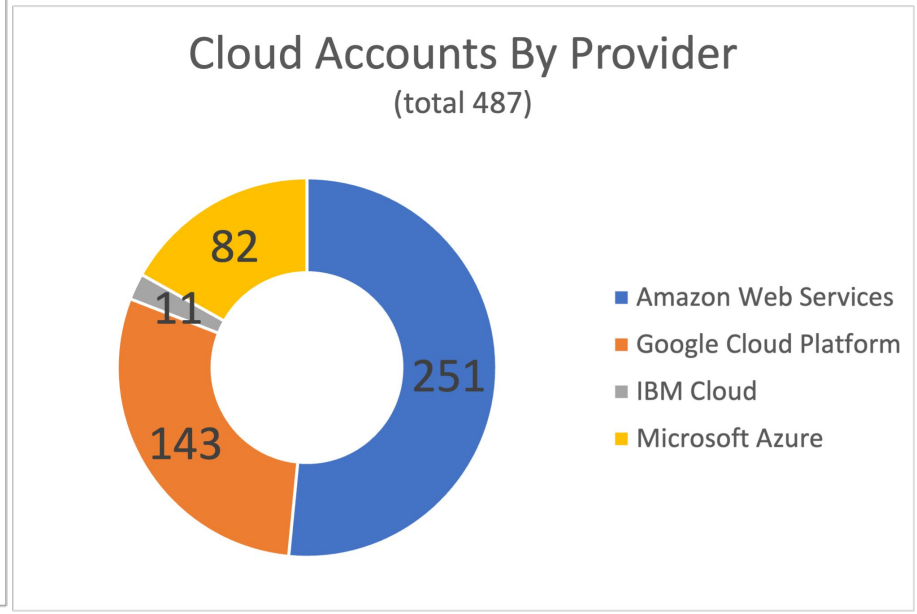
CloudBank Usage Statistics



aws IBM Cloud Google Cloud

Microsoft Azure



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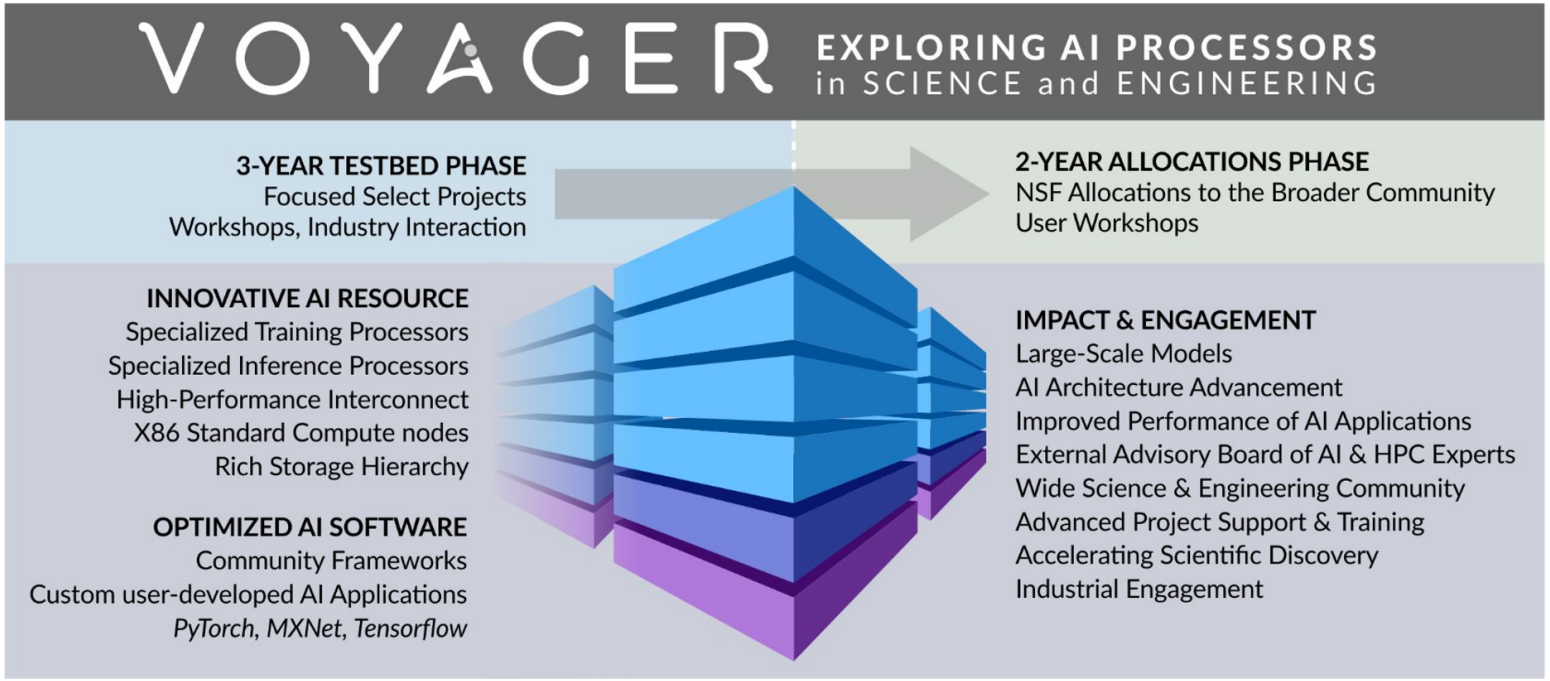
Collaboration Ideas

1. **Interest in adopting CloudBank Portal and /or CloudBank model?** Replace some of the PRAGMA Cloud Testbed infrastructure utilizing credits?
2. **Interest in learning how to run classes in the cloud?** Berkeley Data Stack / 2i2c.org
3. **Interest in using or contributing to cloud training materials?**
4. **Interest in analyzing cloud usage data?**
5. **Interest in collaborating on cloud administration tools?**
6. **Sharing of cloud vendor opportunities?**

One More Collaboration Idea



Training Nodes: Supermicro X12 Gaudi

Inference Nodes: Habana first-generation

- Currently in experimental phase
- TensorFlow and PyTorch frameworks supported natively on Habana processors
- Users can train deep learning models on Gaudi with minimal code changes
- Jobs run using Kubernetes
- Interactive access possible with shell access to running pods and also via Jupyter notebooks

Want to try run your AI app on Voyager?

Thank you! Questions?

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http://www.cloudbank.org