AI Accelerated Spark Challenge

June 23 - 30, 2025 (Zoom)

Monday, June 23 | Day 1
9:00 a.m. - 12:30 p.m. MST
Zoom webinar

ASU Enterprise Technology
Arizona State University

Challenge timeline

Tues 6/24 (Day 2)

NVIDIA bootcamp

Wed - Fri 6/25-27 (Days 3 - 5)

Mentorship and progress reports

Sat 6/28 (Day 6)

Deliverables due at 11:59 p.m.

Mon, 6/30 (Day 7)

Pitches, demos and awards!

The Challenge

Over 5 days, collaborate to design an AI tutoring system that accelerates learning in data science. Your system should ingest machine learning course content and must incorporate GPU acceleration materials provided by NVIDIA.

Use MyAI Builder or your own custom interface to build a tutoring solution focused on GPU-accelerated data science.

Example implementations

1. *Compare the effectiveness of different downloaded models in coaching programmers on GPU-accelerated data science workflows.*
2. *Design a Socratic AI tutor that supports students learning GPU acceleration by identifying conceptual gaps through prompt analysis.*
3. *Evaluate and benchmark the code outputs generated by the AI tutor, focusing on GPU acceleration techniques introduced by NVIDIA.*
4. *Analyze GPU-accelerated code performance across different GPU models to develop practical guidance for programmers.*
5. *Leverage LLMs to assess the power efficiency of GPU-accelerated code, supporting energy-aware programming decisions.*

Evaluation criteria

Overall Presentation	Overall, how would you rate the quality of the presentation?
Problem Statement	How well defined is the problem related to the solution?
Communication	How effectively is the solution and its impact explained?
Innovation	How innovative is the tutoring solution in its approach to GPU-accelerated AI learning?
Storytelling X Factor	Does the presentation feature storytelling, visuals or audience engagement?
GPU Integration	How well and creatively is GPU acceleration integrated into the solution?
System Practicality	How practical is this solution for implementation?
Interface Complexity	Is the interface a plug-and-play tool like MyAI Builder or a custom interface?
GPU Benchmarking	Did the team benchmark GPU acceleration clearly and effectively?
Data Strategy	How effective, creative, or robust was the team's use of datasets?

Challenge deliverables

A functional prototype of your tutoring system:

- An interface for receiving/processing prompts
- Runs on MyAI Builder and/or local models on Sol
- List datasets used, both for the models and for testing GPU acceleration

A pitch deck explaining your process and outcomes.

What to submit on Saturday

1. **URL to team repository**
   - Code
   - Documentation
2. **URL to team presentation**
   - Supports a ~3 min pitch to a live jury delivered on Monday, June 30
   - Must meet all requirements

Submissions due Saturday June 28 by 11:59 p.m. MST via Google Form.

Challenge resources

Challenge resources

Access to Sol:

A100 GPU partition

Be good stewards of this resource! Set each other up for success.

Sol datasets

NVIDIA Python materials

To accelerate GPUs and assess for required benchmarking.

MyAI Builder API key

Optional! Use to customize your MyAI Builder interface.

Emailed to teams prior to Day 2.

Presentation template

Optional! Presentation template available upon request.

Mentorship

Thank you to mentors joining us from ASU and NVIDIA!

Edgard Luque

Associate Professor
Information Systems

W.P. Carey School of Business

Juan Jose Garcia Mesa

Research Software Engineer

Research Computing

William Dizon

Systems Analyst Senior

Research Computing

Mansi Patel

AI Innovation Specialist

Enterprise Technology

Amanda Butler

Solutions Architect

NVIDIA

Zoe Ryan

Solutions Architect

NVIDIA

#ai-accelerated-spark

Join us on

asu.enterprise.slack.com/archives/C0911AVNK6D

Keep up with announcements, explore resources, find mentors, etc!

Team progress

Benefits of daily attendance, mentorship and required status reports

Attendance policy

Attendance required on Day 1 and Day 2 (NVIDIA bootcamp) at 9:00 a.m.

Days 3 - 5: teams expected to be online at 9am working in dedicated BORs; flex hours begin.

Receive mentorship

Challenge SMEs are available daily to teams from 9:00 a.m.-12:30 p.m.

Take advantage of this opportunity to meet daily with experts!

Progress reports

Share regular status updates to receive help in real-time.

Progress reports begin Day 3 to enable offline flexibility as needed.

Progress reports

What is a progress report?

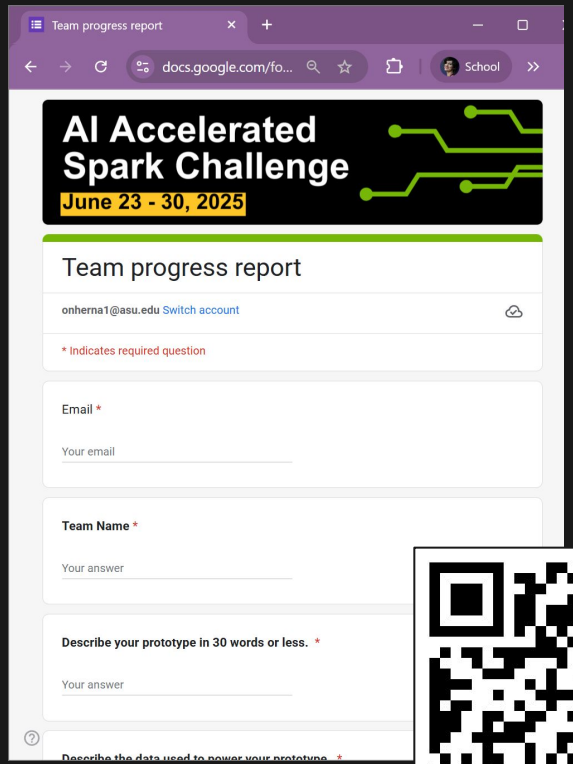
Status updates submitted teams starting Wed - Fri at regular intervals.

Are progress reports required?

Yes - status reports are required for all teams, enabling you flexibility to work around conflicts while ensuring needs are met.

How to submit

Submit a Google Form at regular times starting Wed. Organizers monitor responses to offer real-time support.



Pitch Format

Pitch format

5 mins per team ==

~3 mins to present

~2 mins for Q&A

Pitch and presentation requirements:

Intro & outro

Intro: Briefly introduce your team and roles.

Outro: include a final close to the jury.

Use case

Clearly identify your data science tutor use case and describe your tutoring system implementation, relating it back to your use case/persona.

Benchmarks

Include documented benchmarks (timers, performance graphs, visualizations, etc) of how workflows are accelerated using Python code on Sol GPU versus CPU.

Next steps

What are lessons learned or next steps for this project?

Pitch/presentation = 3 mins or less.
Permitted slide formats = Google Slides; Canva.

Challenge evaluators

John Almasan

Snr Managing Director/Global Head of AI and Emerging Tech

TIAA

Madhu Sudhan Reddy Gudur

Co-Founder & Chief AI Officer

Axyo Inc

Steve Niemi

Senior Account Manager

NVIDIA

Raghu Santanam

Snr Associate Dean, Professor, McCord Chair of Business

W.P. Carey

Gil Speyer

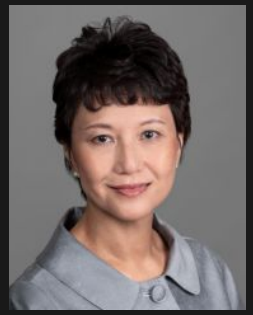
Director

Computational Research Accelerator

Rohit Taneja

Senior Product Manager

Choice Hotels International



Louise Tung

Clinical Assistant Professor, Computer Information Systems

W.P. Carey

Pro tips

- **Write a script!**
  - On average, humans speak **120-150** English words per minute.
    - 3 minutes x (120/150 words/pm) == 360 to 450 words
  - Write a script in this range.
- **Practice!**
- **Template available upon request. *PPTX not accepted!***

Challenge Prizes!

Thank you to our sponsors!

$3,000

First Place Team

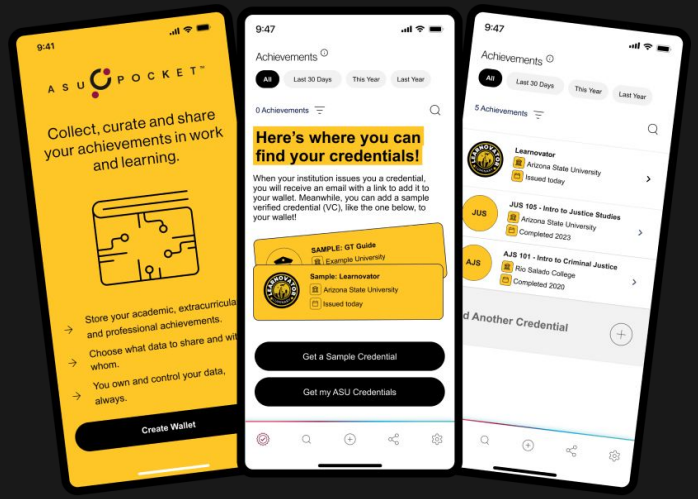
$2,000

Second Place Team

$1,000

Third Place Team

Awards issued as scholarships to student accounts.



Digital credentials!

Documents participation in this challenge and validates skills applied:

- **Rapid prototyping**
- **AI architecture**
- **Teamwork**
- **Project management**
- **Pitching**
- **Presentation design**

Winning teams will also receive an additional credential!