



HBCU App Design & Pitch Competition Details

TEAM COMPOSITION:

- Each Historically Black College or University (HBCU) or Historically Black Community College (HBCC) is allowed ONE team to enter the competition
- There is NO limit on the number of team members
- Each team is allowed a maximum of 2 HBCU alums
- All team members do NOT have to be present for the pitch presentation
- A diverse team demographic is strongly encouraged, including members from fields such as communications, marketing, computer science, and STEM majors

COMPETITION DETAILS:

Each team will be required to complete the following:

- Select one of the three provided problems below
- Apply the given dataset to artificial intelligence models
- Create an app that presents the problem and dataset effectively
- Develop and submit a Microsoft PowerPoint presentation on Wed, Aug 30th by 5PM
- Deliver a pitch presentation to a panel of judges on Thurs, Aug 31st at 130PM

The 3-minute pitch presentation must include:

- Introduction of your school and team demographics (classifications, majors, and genders)
- Clear statement of the chosen problem
- Identification of the AI models used and rationale for their selection
- Demonstration (embedded video) of your functioning application
- Recommendation to the client (stakeholder) regarding AI's potential impact on decision-making based on your findings
- Identification of any technical challenges faced and their resolution (or lack thereof)

EVALUATION CRITERIA:

Technical Solution (50 points):

- 20 points - Technical Feasibility (proposal's viability)
- 20 points - Problem Fit (effectiveness in solving presented issues)
- 10 points - Innovation (novelty of the Solution)

Quality of Presentation (20 points):

- 10 points - Fulfillment of all requirements (demographics, clear problem statement)
- 10 points - Clear discussion of technical challenges and handling, along with client recommendations

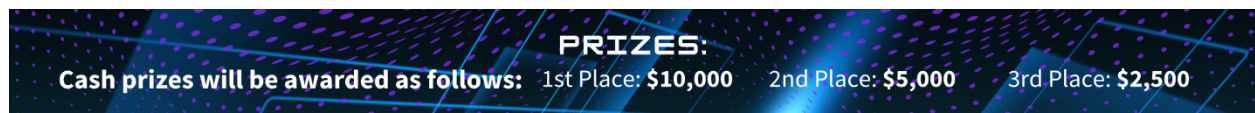
Delivery of Pitch (30 points):

- 10 points - Presentation within 3 minutes
- 10 points - Clarity of pitch and visual aids
- 10 points - Professionalism and presence of presenters

Total: 100 points

SUBMISSION REQUIREMENTS:

Submit your PowerPoint presentation via a Google Drive link to HBCU-IE@tidalits.com no later than **5 PM on Wednesday, August 30th**.



Additional Information:

- *Subject Matter Experts are available via Slack for each problem area, data set, design thinking, artificial intelligence, and app development.*

Join the Slack channel here - https://join.slack.com/t/hbcu-app-design-pitch/shared_invite/zt-20p6fakrm-OB0cRDTWrcHvtHRyCBpdvQ

- ALL questions will be asked and answered in SLACK
- Encourage fellow students to attend and support the event
- Sample AI models are provided for teams' utilization

PROBLEMS:

Problem #1 – Finance (Trustmark/ServisFirst)

- **Problem Statement:** Like all federally regulated financial institutions, local banks are required to serve all customers within the markets they serve. They cannot overlook low to moderate income census tracts nor majority minority census tracts. Federal regulators assess financial institutions' success based on an institution's penetration in these markets relative to peer institutions. How can AI enhance market penetration relative to peer institutions?
- **Data Sets:**
(Original) <https://www.ffiec.gov/census/report.aspx?year=2022&state=01&msa=33860&county=&tract=&report=demographic&page=1>
(Encoded) <https://docs.google.com/spreadsheets/d/1uOngpOPa04QrVKhWrBXRZf5rkQFhHgGSCeQ2unmEVOE/edit?usp=sharing>

Problem #2 –Logistics (CSX)

- **Problem Statement:** CSX moves railcars without waybills/directives, causing extra handlings/miles, unknown load/empty – potential missed revenue, inefficient asset utilization and manual work. Cars are pulled/moved as “nobills” causing manual research to determine the load/empty status and then secure billing or determine other issues. While researching, cars are handled multiple times, moved without info on where cars are going, etc. This causes delays, missed opportunities to turn assets, missed revenue and other accessorial charges. There is limited visibility into reasons for errors (bad order car, already loaded, billing rejected, dirty car, wrong car type, not their car, RR error, etc.). How can AI help to provide better decision making capabilities to reduce inefficient asset utilization and manual work?
- **Data Sets:**
(Original) https://docs.google.com/spreadsheets/d/16NEjsQdDX7j9KOVFUInGtB5dBk9Zg96M/edit?usp=drive_link&oid=111143563282369139594&rtpof=true&sd=true
(Encoded) https://docs.google.com/spreadsheets/d/1rJ6A1PRNC42T23zS0lmg-KFojwg0mNUwATNC6MOIUU/edit?usp=drive_link

Problem #3 - Logistics (USAF)

- **Problem Statement:** Aircraft maintenance within the Air Force is a critical function to ensure we achieve our mission to Fly, Fight, and Win! Repeated failures of our systems hinder our ability to project airpower and support our mission. During maintenance, records are kept to ensure we are operationally prepared. The provided data provides maintenance records for three aircraft that have experienced repeated failures. How can AI evaluate and assist in determining possible causes for these repeated issues?
- **Data Sets:**
(Original) https://docs.google.com/spreadsheets/d/1RtsqYVmQIK2RI2KEjY9OJHwZd28v1kdt/edit?usp=drive_link&ouid=111143563282369139594&rtpof=true&sd=true
(Encoded) <https://acrobat.adobe.com/link/track?uri=urn:aaid:scds:US:57d8f08c-c06e-4edc-a300-4b8833382927>

Please see the link below for access to a Jupyter notebook containing a Neural Network model for use with the provided encoded data:

<https://drive.google.com/file/d/1kpVnXKqn5QVI5nCtdAasiXQ3dPJIP1ZB/view?usp=sharing>

*Encoded Data sets are designed to work with the AI models, it expands the columns to make them more usable by the algorithms

Resources:

Links to AI Models:

Machine Learning

<https://towardsdatascience.com/machine-learning-basics-part-1-a36d38c7916>

Neural Networks

<https://towardsdatascience.com/a-gentle-introduction-to-neural-networks-series-part-1-2b90b87795bc>

https://www.youtube.com/watch?v=aircAruvnKk&list=PLZHQObOWTQDNU6R1_67000Dx_ZCJB-3pi

<https://www.youtube.com/watch?v=jmmW0F0biz0>

Dimensionality Reduction

<https://towardsdatascience.com/an-introduction-to-dimensionality-reduction-e873449c865>

<https://machinelearningmastery.com/dimensionality-reduction-for-machine-learning/>

Links to App Design templates: <https://learn.microsoft.com/en-us/azure/machine-learning/prompt-flow/overview-what-is-prompt-flow?view=azureml-api-2>

Links to Design Thinking Resources:

[Design Thinking resources](#)

Links Perfect Pitch Tips:

<https://youtu.be/bVFwSpVL6Vc>