



May 22, 2024

Dear Bunker Hill Community College team The Luna-Tics,

Congratulations on successfully completing NASA MINDS 2024. Kudos on the long hours, the team-work, and crossing the finish line! NASA MINDS 2024 was an enormous success because of the excellent participation of teams like yours. The NASA judges had some very difficult decisions to make because so many of the papers, posters, and finalist presentations were of such high caliber.

The following are your team's award, scores and the compiled judges' comments.

**AWARDS / RECOGNITION:**

- **3<sup>rd</sup> Place Championship Design, Build, and Demonstration (Underclassman Team) - \$750**
- **Finalist Underclassman Team (Top Five)**

**SCORES:**

<b>NASA MINDS 2024 SCORES</b>		
	<b>Averaged Score</b>	<b>Points Possible</b>
<b>Paper</b>	18.5	25
<b>Poster</b>	14.83	20
<b>Finalist Presentation</b>	37.88	50

**JUDGES' PAPER COMMENTS:**

- Outstanding work! Thorough and well-constructed, I enjoyed learning about this project.
- Well done! You should be very proud of what you've accomplished. Your design was excellent, and you did a great job of conveying both your design and your built prototypes, including both hardware and software components.
- The flow charts and images of the prototypes were particularly helpful in understanding the work you've done. However, I found the latter part a bit difficult to follow. It wasn't clear to me which parts of the neural net and machine learning work were completed and which were identified as potential future work.
- Additionally, I would have liked to see more information about what the prototypes were capable of doing. For example, did they perform any simple tasks, such as reaching a goal point? Providing more clarity on these points would enhance the understanding of your project's outcomes.

**JUDGES' POSTER COMMENTS:**

- Students did a great job describing the Artemis mission and their desired contributions to the mission.
- The project concept was described well, and the poster was laid out clearly and sensibly.
- Some more detail on the engineering design process and results would be worthwhile, along with quantifying the terrain the project is intended to traverse (and quantifying performance of the experiment). Hopefully the project team maintains enthusiasm and continues project development.
- Great work! Wonderful poster, managing to be informative and aesthetically pleasing. I would have liked to have seen a more thorough explanation of the code implementation with how the swarm communicates and synchronizes as well as what the machine learning model is doing.
- Very interesting concept, NASA JPL is doing something similar with their Nebula SPOT project.
- The poster itself is too simple, little bit more information highlighting the design process, components, and prototype would be very beneficial.

Best regards,

A handwritten signature in black ink that reads "Grace K. Johnson". The signature is written in a cursive, flowing style.

Grace K. Johnson  
Project Manager  
NASA MINDS