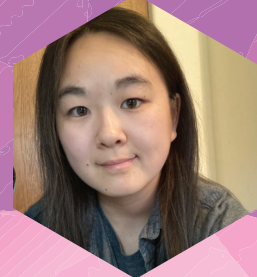
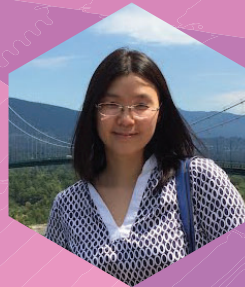


# 2022

Nanook Award

## Best Undergraduate Innovation Disclosure



## Machine Learning Models for Solar Wind Data Gaps

### *Inventors:*

Jasmine Kobayashi, Dogacan Ozturk, and  
Hyunju Connor

- Developed by Jasmine Kobayashi (Undergraduate Research Assistant), Dogacan Ozturk and Hyunju Connor (both Assistant Professors) on behalf of the Geophysical institute.
- NASA's OMNI data provide information about the solar wind plasma parameters and interplanetary magnetic fields in the near-Earth environment. OMNI data is widely used to drive numerical and machine learning models.
- Developed different linear interpolation methods that resulted in the lowest root mean square error for data gaps between 30 to 60 minutes.
- Impacts and directly contributes to NASA data modeling of solar winds and auroras.



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