2022
Nanook Award
Best Undergraduate Innovation Disclosure

Machine Learning Models for Solar Wind Data Gaps

Inventors:
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- 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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