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Poster
Over the past decade, the Heliophysics community has increasingly explored machine learning (ML) techniques, as reflected in the exponential growth of peer-reviewed publications, conference presentations, and funding opportunities. Among the key areas of ML application, space weather forecasting stands out as a field with tremendous potential for data-driven decision-making. This poster highlights some of the ongoing ML research efforts at Georgia State University, including (1) ML-driven forecasting of solar transient events such as solar flares, coronal mass ejections (CMEs), and solar energetic particles (SEPs); (2) integration of ML with physics-based simulations to further enhance predictions of solar transient events; (3) the development of ML-ready datasets for improved forecasting of solar transient events and radiation exposure at aviation altitudes, etc.

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