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GROUP TITLE/ABSTRACT

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“Power Outage Forecasting for Hurricanes, Tropical Storms and Winter Storms”

Tropical and winter storms can cause widespread damage to electric distribution networks. These distribution networks are mostly above ground and are exposed to direct damage from severe weather conditions associated with these storms. For example, during winter storms, the combined stress of the weight of ice, the increased wind resistance of the conductors, and broken tree limbs can damage lines, poles, and support structures. The goal is to develop a model to predict electric power outages in near-real time when severe storm conditions are forecasted. This is especially important as predicting power outages during hurricanes is one with important practical ramifications. As part of this work, we will address the problem of forecasting power outages knowing only information about the incoming hurricane and basic environmental, social, and economic indicators in the affected areas. These data are available and uniformly measured across the US, making for a scalable model. Moreover, we will explore data driven approaches, using standard prediction metrics to evaluate performance of flexible machine learning techniques.