Improvements to Machine Learning Model for Near-Real-Time Rocket Detection

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Abstract:

This work presents improvements to a preliminary machine learning model designed to detect rocket launches through transfer learning. The model has been running on smartphones deployed at ranges between 10 and 100 kilometers from launch pads at the Kennedy Space Center in Cape Canaveral, Florida since July 2022. Using the results of analysis of the model's performance in the field, improvements have been made with the aim of further decreasing the model's false positive rate and improving detection at ranges greater than 30 kilometers.