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## Subseasonal Forecasts of Opportunity Identified by an Explainable Neural Network

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Midlatitude prediction on subseasonal timescales is difficult due to the chaotic nature of the atmosphere and often requires the identification of favorable atmospheric conditions that may lead to enhanced skill ("forecasts of opportunity"). Here, we demonstrate that an artificial neural network can identify such opportunities for tropical-extratropical teleconnections to the North Atlantic circulation at a lead of 22 days using the network's confidence in a given prediction. Furthermore, layer-wise relevance propagation, an ANN interpretability technique, pinpoints the relevant tropical features the ANN uses to make accurate predictions. We find that layer-wise relevance propagation identifies tropical hot spots that correspond to known favorable regions for midlatitude teleconnections and reveals a potential new pattern for prediction over the North Atlantic on subseasonal timescales.