Geoscientific

Model Development
Discussions

[GMDD]

Interactive
comment

Interactive comment on "Using wavelet transform and dynamic time warping to identify the limitations of the CNN model as an air quality forecasting system" *by* Ebrahim Eslami et al.

Anonymous Referee #2

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This paper proposed a wavelet-based approach to evaluate the advantage and disadvantages of a typical deep learning model, convolutional neural network, in air quality forecasting (AQF). They used wavelet transform to identify the causes of the poor performances of CNN and find that when fine wavelet modes are relatively weak or coarse wavelet modes are strong, CNN forecasts will be less accurate. This finding is very important for the community to understand the drawbacks of deep learning and be aware of them when using it together with conventional numeric air quality models. The paper has a clear design and the proposed idea and the subsequent experiments are presented very well.

Interactive comment on Geosci. Model Dev. Discuss., https://doi.org/10.5194/gmd-2019-346, 2020.