

## Deep Learning and Enhanced Emissions Modeling and Deposition Prediction

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### Abstract

In recent years, the issue of pollution in the air has emerged as one of the most pressing concerns facing our society.

It is vital to predict air pollution in order to provide early warnings to the community and prevent the pollution from impacting the public.

In this study, we developed an AI model for predicting PM<sub>2.5</sub> concentrations 2 hours in advance by utilizing ensemble empirical mode decomposition in conjunction with long-short-term memory.

Our approach primarily consists of two stages: the first stage involves breaking down time-series data into intrinsic features, and the second stage involves using a model with long-short-term memory to learn patterns from training data.

The results of the experiments reveal that our work performs much better than the baseline models and greatly improves performance in terms of RMSE and IOA.

(Keywords:)

deep learning , ensemble empirical mode decomposition , long-short term memory ,air pollution prediction

# REQUEST FOR FULL TEXT

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