

Task

- Given the air quality dataset of cities B, G, S, T
- Propose a robust deep learning model for multi-step forecasting [Step size = 1, 7, 14, 30, 60]
- The model should take all the attribute values from the dataset as input and predict the PM25_Concentration value as output
- Train the model independently for each city
- Test the trained models using the datasets of each city without noise
- Evaluate the performance using 'Mean square error' and 'Mean absolute error.'
- Save a unique model (Weights should be unique, but model architecture should be the same) for each city

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- Your saved models will be validated with a corresponding unseen test set without noise.
 - Also, we will validate the robustness of your model using the given test set with different noise levels (.001, .002, .005, .01, .05, .1, .5,) in all the data attributes.

(Example: Noisy Attribute 1 = Attribute 1 + Normal Distribution (mean = 0, variance = (Standard deviation of Attribute 1 * (level of noise = .001))))

- **Prepare a report summarizing the overview of a complete idea to solve the problem, model architecture, training process, testing process, and evaluation results.**
- **Provide the trained deep learning models, which should be saved in a format compatible with TensorFlow/Keras or PyTorch.**
- **Provide a text file (req.txt) containing the required version of the deep learning framework (e.g., Tensorflow, Keras, PyTorch), along with all the required libraries or packages and their versions that your model depends on.**
- **Provide a text file (Readme.txt) containing the required steps to test your model for multi step forecasting in unseen multivariate series.**