

How AlphaWeather incorporates Weather Forecast: Can be a Locomotive of Next-Generation Forecast system?

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AlphaWeather is intelligent solution which AI/ML technique is applied. KMA/NIMS has developed AlphaWeather in earnest in 2021 after 2-year pilot project AlphaWeather will be developed for 10 years. The concepts of AlphaWeather are improvement, automation and tailor of data and information.

For improvement, we're focused on the precipitation forecasting. Firstly, we've studied the neural network (NN) emulator for the radiation parameterization and its application on KMA operational NWP model. We have studied the post-processing of multi-NWP models with recommendation module based on the bias pattern and developing precipitation forecast using the data of radar and rain gauge.

For automation or minimization of forecasters' process, we has developed the intelligent solution which has the function of recognition on potential severe weather, analysis on NWP's bias pattern/trend, NLP based data/information retrieval agents and similar weather condition retrieval algorithm using 30 years of geostationary satellite image. This solution will be developed in the way to be incorporated into the existing forecast decision support system. existing systems.

For tailoring the data and information, we've studied the data labeling.

Here the first phase (2021-2024) of AlphaWeather project will be introduced briefly with recent progress.