Abstract

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Gap-Filling of Missing Weather Conditions Data Using Support Vector Regression Method

Incomplete data values generated by sensors cause various types of problems. Also filling missed data is a true challenge for data analysis in accurate and effective manner. Support Vector Regression (SVR) is one of the state-of-the-art statistical machine learning methods that has been successfully employed in various recent studies for meteorological forecasting problems. This paper presents an approach for generating virtual gaps in weather conditions dataset and the investigating the ability of filling these gaps based on historical data. The gaps are generated for a length of 10 days and repeated every 40 days along time duration of 16 years. This paper examines and reports potential application of a SVR based approach for predicting future weather conditions. Also, comparison has been conducted with other Machine Learning (ML) algorithms in order to test and validate the capability of the proposed model …