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(71) Applicant: **ENVISION DIGITAL INTERNATIONAL PTE. LTD.** [SG/SG]; 1 Harbourfront Avenue, #17-01, Keppel Bay Tower, Singapore 098632 (SG).

(72) Inventors: **ZHONG, Xiaohui**; c/o Envision Digital International Pte. Ltd., 1 Harbourfront Avenue, #17-01, Keppel Bay Tower, Singapore 098632 (SG). **SONG, Guiting**; c/o Envision Digital International Pte. Ltd., 1 Harbourfront Avenue, #17-01, Keppel Bay Tower, Singapore 098632 (SG).

(74) Agent: **YUSARN AUDREY LLC**; 4 Shenton Way, #14-03, SGX Centre 2, Singapore 068807 (SG).

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(54) Title: SYSTEM AND METHOD FOR GENERATING A SERIES OF SHORT PERIOD LOCAL WIND SPEED FORECASTS EMPLOYING K-MEANS CLUSTERING AND STACKED MACHINE LEARNING ANALYSIS

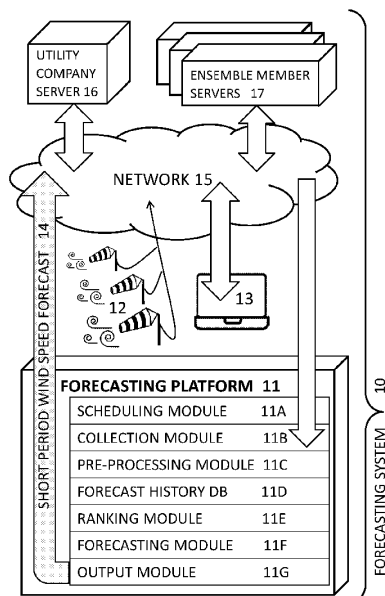


FIG. 1

(57) Abstract: A system and method for generating a series of short period wind speed (SPWS) forecasts 14 for a local area using a periodically updated k-means clusters and machine learning (ML) stacking. wind speed (WS) forecast information 71N from ensemble members for a new forecast request 61A are first clustered using k-means clustering 72 and then compared with: (i) WS clusters 64AN generated during prior forecast requests; and (ii) the actual observed wind speeds from a recent time frame. This comparison is used to a set of cluster statistics and cluster error calculations used by a stacking module with a set of first ML models (82A-82D) and a second ML model 83 when processing the WS clusters 64AN to generate the SPWS forecast 14.

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