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(51) International classification	:G06Q0010040000, G01W0001100000, G06N0003045000, G06N0003080000, G01W0001000000	(71) <b>Name of Applicant :</b> <b>1)NOIDA INSTITUTE OF ENGINEERING &amp; TECHNOLOGY</b> Address of Applicant :19, Knowledge Park-II, Institutional Area, Greater Noida – 201306, Uttar Pradesh, India. Uttar Pradesh India
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(57) Abstract :

The invention discloses an AI-based framework for intelligent weather forecasting models comprising a data acquisition unit (101), preprocessing module (102), hybrid AI engine (103), ensemble prediction system (104), interpretability module (105), and user interface (106). The framework integrates multi-source meteorological data and employs deep learning models to provide real-time, accurate, and interpretable forecasts. The system ensures scalability through cloud-edge integration and adaptability for applications in agriculture, aviation, disaster management, and energy systems. Experimental validation confirms superior performance over traditional forecasting models.

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