

(54) Title of the invention : AN AI BASED SYSTEM FOR PREDICTION OF HEAVY/HIGH IMPACT RAIN EVENTS

<p>(51) International classification :G06N0020000000, G06N0005040000, G06N0020200000, G06N0003080000, G06Q0010040000</p> <p>(86) International Application No :NA Filing Date :NA</p> <p>(87) International Publication No : NA</p> <p>(61) Patent of Addition to Application Number :NA Filing Date :NA</p> <p>(62) Divisional to Application Number :NA Filing Date :NA</p>	<p>(71)Name of Applicant :  <b>1)NOIDA INSTITUTE OF ENGINEERING &amp; TECHNOLOGY</b>  Address of Applicant :19, KNOWLEDGE PARK-II, INSTITUTIONAL AREA, GREATER NOIDA-201306, GAUTAM BUDDHA NAGAR, UTTAR PRADESH, INDIA Gautam Buddha Nagar -----  ---  <b>Name of Applicant : NA</b>  <b>Address of Applicant : NA</b>  (72)Name of Inventor :  <b>1)MR. AVIRAL SRIVASTAVA</b>  Address of Applicant :NOIDA INSTITUTE OF ENGINEERING &amp; TECHNOLOGY, 19, KNOWLEDGE PARK-II, INSTITUTIONAL AREA, GREATER NOIDA-201306, GAUTAM BUDDHA NAGAR, UTTAR PRADESH, INDIA Gautam Buddha Nagar -----  <b>2)MS. ARUNEEMA JOSHI</b>  Address of Applicant :NOIDA INSTITUTE OF ENGINEERING &amp; TECHNOLOGY, 19, KNOWLEDGE PARK-II, INSTITUTIONAL AREA, GREATER NOIDA-201306, GAUTAM BUDDHA NAGAR, UTTAR PRADESH, INDIA Gautam Buddha Nagar -----  <b>3)MS NEETU RAJPUT</b>  Address of Applicant :NOIDA INSTITUTE OF ENGINEERING &amp; TECHNOLOGY, 19, KNOWLEDGE PARK-II, INSTITUTIONAL AREA, GREATER NOIDA-201306, GAUTAM BUDDHA NAGAR, UTTAR PRADESH, INDIA Gautam Buddha Nagar -----  <b>4)DR RITESH RASTOGI</b>  Address of Applicant :NOIDA INSTITUTE OF ENGINEERING &amp; TECHNOLOGY, 19, KNOWLEDGE PARK-II, INSTITUTIONAL AREA, GREATER NOIDA-201306, GAUTAM BUDDHA NAGAR, UTTAR PRADESH, INDIA Gautam Buddha Nagar -----  <b>5)MR RAM KUMAR SHARMA</b>  Address of Applicant :NOIDA INSTITUTE OF ENGINEERING &amp; TECHNOLOGY, 19, KNOWLEDGE PARK-II, INSTITUTIONAL AREA, GREATER NOIDA-201306, GAUTAM BUDDHA NAGAR, UTTAR PRADESH, INDIA Gautam Buddha Nagar -----  <b>6)MR ANKUR KUMAR VARSHANEY</b>  Address of Applicant :NOIDA INSTITUTE OF ENGINEERING &amp; TECHNOLOGY, 19, KNOWLEDGE PARK-II, INSTITUTIONAL AREA, GREATER NOIDA-201306, GAUTAM BUDDHA NAGAR, UTTAR PRADESH, INDIA Gautam Buddha Nagar -----  <b>7)MR PRATEEK MATHUR</b>  Address of Applicant :NOIDA INSTITUTE OF ENGINEERING &amp; TECHNOLOGY, 19, KNOWLEDGE PARK-II, INSTITUTIONAL AREA, GREATER NOIDA-201306, GAUTAM BUDDHA NAGAR, UTTAR PRADESH, INDIA Gautam Buddha Nagar -----  <b>8)MR AHMAD NAFIS</b>  Address of Applicant :NOIDA INSTITUTE OF ENGINEERING &amp; TECHNOLOGY, 19, KNOWLEDGE PARK-II, INSTITUTIONAL AREA, GREATER NOIDA-201306, GAUTAM BUDDHA NAGAR, UTTAR PRADESH, INDIA Gautam Buddha Nagar -----</p>
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(57) Abstract :  
Disclosed herein is an AI based system for prediction of heavy/high impact rain events (100) comprises a data acquisition module (102) configured to collect historical rainfall datasets from one or more sources. The system also includes a preprocessing engine (104) configured to clean, normalize, and prepare the collected datasets for analysis. The system also includes a test data generation unit (106) configured to derive test datasets from the preprocessed historical rainfall data for model validation purposes. The system also includes a training module (108) configured to train one or more machine learning models using the preprocessed dataset, the training module employing supervised or unsupervised learning techniques and leveraging algorithmic frameworks implemented using platforms. The system also includes a predictive inference engine (110) configured to apply the trained machine learning model to the test dataset in order to predict future occurrences of heavy or high-impact rainfall events.

No. of Pages : 30 No. of Claims : 10