

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202511062760 A

(19) INDIA

(22) Date of filing of Application :01/07/2025

(43) Publication Date : 15/08/2025

(54) Title of the invention : A MACHINE LEARNING-BASED SYSTEM FOR COMPARATIVE CROP YIELD PREDICTION ANALYSIS

<p>(51) International classification :G06N002000000, G06N0003080000, G06Q0010040000, G06N0020200000, G06F0018210000</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. ABDULLAH FAHAD</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)MR. ANIS AHMAD</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)MR ANKUR CHAUDHARY</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)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>5)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>6)MR ANKUR KUMAR VARSHNEY</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. VIKRANT MALIK</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 PITAMBER ADHIKARI</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>
--	--

(57) Abstract :  
Disclosed herein is a machine learning-based system for comparative crop yield prediction analysis (100) comprises a data acquisition module (102), configured to collect historical and real-time agricultural datasets from one or more sources. The system also includes a preprocessing unit (104), configured to clean, normalize, and structure the acquired data. The system also includes a model training engine (106), configured to train a plurality of machine learning models. The system also includes a model comparison module (108), configured to evaluate and compare the performance of the trained models based on accuracy, loss, precision, recall, and other defined metrics. The system also includes a predictive analytics engine (110), configured to apply the best-performing model selected through comparative evaluation to forecast future crop yields based on new or live data inputs. The system also includes a deployment interface (112), configured to serve prediction results through a web-based interface or API.

No. of Pages : 29 No. of Claims : 10