Home (http://ipindia.nic.in/index.htm) About Us (http://ipindia.nic.in/about-us.htm) Who's Who (http://ipindia.nic.in/whos-who-page.htm) Policy & Programs (http://ipindia.nic.in/policy-pages.htm) Achievements (http://ipindia.nic.in/achievements-page.htm) RTI (http://ipindia.nic.in/right-to-information.htm) Feedback (https://ipindiaonline.gov.in/feedback) Sitemap (shttp://ipindia.nic.in/itemap.htm) Contact Us (http://ipindia.nic.in/contact-us.htm) Help Line (http://ipindia.nic.in/helpline-page.htm) Skip to Main Content





Patent Search



(http://ipindia.nic.in/index.htm) PROPERTY INDIA

Invention Title	INTEGRATING STATISTICAL METHODS WITH AI FOR ENHANCED PREDICTIVE MODELING		
Publication Number	30/2024		
Publication Date	26/07/2024		
Publication Type	INA		
Application Number	202421050428		
Application Filing Date	01/07/2024		
Priority Number			
Priority Country			
Priority Date			
Field Of Invention	COMPUTER SCIENCE		
Classification (IPC)	G06N002000000, G06N0005040000, G16H0050200000, G16H0010600000, G06F0017180000		
Inventor			
Name	Address	Country	Nationality
Mrs. Ghuge Vijaymala Tanaji	Assistant Professor, Department of Mathematics, Rashtramata Indira Gandhi Arts, Commerce and Science College, Jalna, Maharashtra, India, Pincode: 431203	India	India
Ms. Senthamarai.M	Assistant Professor, Department of Artificial Intelligence and Data Science, Nandha Engineering College, Erode, Tamilnadu, India, Pincode: 638052	India	India
Dr. Nellore Manoj Kumar	Independent Researcher, Founder & CEO, Infinite-Research Organization, B.O, 15-225, Gollapalem, Venkatagiri, Tirupati District, Andhra Pradesh, India, Pincode: 524132	India	India
Mrs. Akkaraju Lalitha	Adjunct Faculty, Faculty of Management and Commerce, PES University, Bengaluru, Karnataka, India, Pincode: 560085	India	India
Mr. B. Siva Sankar	Assistant Professor, Department of IT, Institute of Aeronautical Engineering, Dundigal, Hyderabad, Telangana, India, Pincode: 500043	India	India
Dr. Kuparala Venkata Vidyasagar	Lecturer in Mathematics, Department of Mathematics, SVLNS Government Degree College, Bheemunipatnam, Visakhapatnam, Andhra Pradesh, India, Pincode: 531163	India	India
Dr. Konduru Venkateswara Raju	Professor, Department of Mathematics, Sri Venkateswara College of Engineering (Autonomous), Tirupati, Andhra Pradesh, India, Pincode: 517507	India	India
Dr. Animesh Kumar Sharma	Assistant Professor, Department of Mathematics, Faculty of Science and Technology, The ICFAI University, Raipur, Chhattisgarh, India, Pincode: 492001	India	India
Applicant			
Name	Address	Country	Nationality
Mrs. Ghuge Vijaymala Tanaji	Assistant Professor, Department of Mathematics, Rashtramata Indira Gandhi Arts, Commerce and Science College, Jalna, Maharashtra, India, Pincode: 431203	India	India
Ms. Senthamarai.M	Assistant Professor, Department of Artificial Intelligence and Data Science, Nandha Engineering College, Erode, Tamilnadu, India. Pincode: 638052	India	India

## Dr. Kuparala Venkata Lecturer in Mathematics, Department of Mathematics, SVLNS Government Degree College, Bheemunipatnam, Vidyasagar Visakhapatnam, Andhra Pradesh, India, Pincode: 531163 Dr. Konduru Venkateswara Professor, Department of Mathematics, Sri Venkateswara College of Engineering (Autonomous), Tirupati, Andhra Pradesh, India, Pincode: 517507 Raju Dr. Animesh Kumar Assistant Professor, Department of Mathematics, Faculty of Science and Technology, The ICFAI University, Raipur, Chhattisgarh, India, Pincode: 492001 Sharma

500043

District, Andhra Pradesh, India, Pincode: 524132

Abstract:

Dr. Nellore Manoi Kumar

Mrs. Akkaraju Lalitha

Mr. B. Siva Sankar

The proposed invention integrates advanced statistical methods with artificial intelligence (AI) to enhance predictive modeling. By combining the interpretability of statistical techniques such as regression analysis and hypothesis testing with the adaptive capabilities of AI methodologies like neural networks and machine learning algorithms, the system achieves superior predictive accuracy and reliability. This hybrid approach addresses the limitations of traditional and Al-based models when used in isolation, making it applicable across diverse domains including healthcare, finance, marketing, environmental science, and education. The invention's design includes robust validation protocols, ethical AI practices, and user-friendly interfaces, ensuring transparency, adaptability, and broad accessibility. By leveraging high-performance computing and advanced data preprocessing, the system handles large-scale, high-dimensional data efficiently, enabling better-informed decision-making and actionable insights.

Independent Researcher, Founder & CEO, Infinite-Research Organization, B.O. 15-225, Gollapalem, Venkatagiri, Tirupati

Adjunct Faculty, Faculty of Management and Commerce, PES University, Bengaluru, Karnataka, India, Pincode: 560085

Assistant Professor, Department of IT, Institute of Aeronautical Engineering, Dundigal, Hyderabad, Telangana, India, Pincode:

## **Complete Specification**

Description: The present invention pertains to the interdisciplinary field of data science, specifically the integration of advanced statistical methods with artificial intelligence (AI) to enhance predictive modeling. This system leverages the strengths of statistical techniques such as regression analysis, hypothesis testing, and Bayesian inference, alongside modern AI methodologies including machine learning algorithms, neural networks, and deep learning frameworks. The primary objective is to improve the accuracy, reliability, and interpretability of predictive models across various domains, including finance, healthcare, marketing, and environmental sciences. By combining the robust theoretical foundations of statistics with the adaptive learning capabilities of AI, the invention aims to address complex prediction problems, optimize decision-making processes, and facilitate the discovery of novel insights from large and diverse datasets. The system is designed to be versatile, scalable, and applicable to both structured and unstructured data, thereby providing a comprehensive toolset for researchers and practitioners aiming to enhance their analytical capabilities.

## Background of the proposed invention:

In the rapidly evolving landscape of data-driven decision-making, the demand for robust and accurate predictive models has never been greater. Traditional statistical methods have long been the cornerstone of predictive analytics, offering a solid foundation for understanding relationships within data and making informed predictions. Techniques such as linear regression, logistic regression, time series analysis, and hypothesis testing have been extensively utilized to model and forecast various phenomena across different fields. However, the limitations of these classical approaches have become increasingly apparent in the face of large, complex, and highdimensional datasets that characterize many modern applications.

Concurrently, the advent of artificial intelligence (AI) and machine learning (MI) has revolutionized the way we approach predictive modeling. Al and ML bring to the table a

View Application Status

## india.gov.in

Terms & conditions (http://ipindia.gov.in/terms-conditions.htm) Privacy Policy (http://ipindia.gov.in/privacy-policy.htm) Copyright (http://ipindia.gov.in/copyright.htm) Hyperlinking Policy (http://ipindia.gov.in/hyperlinking-policy.htm) Accessibility (http://ipindia.gov.in/accessibility.htm) Archive (http://ipindia.gov.in/archive.htm) Contact Us (http://ipindia.gov.in/contact-us.htm) Help (http://ipindia.gov.in/help.htm)

Content Owned, updated and maintained by Intellectual Property India, All Rights Reserved.

Page last updated on: 26/06/2019