



(<http://ipindia.nic.in/index.htm>)



(<http://ipindia.nic.in>)

Patent Search

Invention Title	ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING-BASED APPROACHES FOR ESTIMATING THE COST AND PERFORMANCE OF PRESTR IN CONCRETE BRIDGE CONSTRUCTION
Publication Number	51/2023
Publication Date	22/12/2023
Publication Type	INA
Application Number	202341079679
Application Filing Date	23/11/2023
Priority Number	
Priority Country	
Priority Date	
Field Of Invention	CIVIL
Classification (IPC)	E01D0021000000, G06K0009620000, G06N0020000000, E01D0101280000, G06N0003080000

Inventor

Name	Address	Country
Deekshith Jain	Assistant Professor, Department of Construction Technology and Management, College of Engineering and Technology, Bule Hora University	India
Dr.M.Chittaranjan	Professor & Head, Department of Civil Engineering, Sri Venkateswara College of Engineering,Tirupati-517507	India
B.Suresh	Assistant Professor, Department of Civil, K.S.R College of Engineering -637215	India
T.Vijayashankar	Assistant Professor, Department of Civil Engineering,K.S.R. College of Engineering (Autonomous) ,Tiruchengode	India
Sateesh Devanga Yerra	: Engineer - II, Qualcomm India Private Limited (J Building), Carina West tower, Bagmane constellation, Bangalore, Karnataka-560037.	India
Christina	Assistant Professor /ECE SNS College of Technology Coimbatore 641035	India
Mr Chitte Anil	Assistant professor, cse(data science), Institute of Aeronautical Engineering, 500043.	India
Dr.P.Sampath	Assistant professor/civil engineering, PERI institute of technology, Mannivakkam, Chennai-600048	India
Dr.Maaz Allah Khan	Department of Civil Engineering, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow UP	India
Madhuri Ganesh Pagale	Pimpri Chinchwad College of Engineering, Nigdi, pune-411044.	India
Priyank Udaybhai Trivedi	Research Student, Institute of Infrastructure Technology Research And management, Near Khokhra Circle,Maninagar	India
Ruthra R	Assistant Professor, Civil Engineering Department, St. Joseph's College of Engineering, OMR, Chennai-119	India

Applicant

Name	Address	Country
Deekshith Jain	Assistant Professor, Department of Construction Technology and Management, College of Engineering and Technology, Bule Hora University	Ethiopia
Dr.M.Chittaranjan	Professor & Head, Department of Civil Engineering, Sri Venkateswara College of Engineering,Tirupati-517507	India
B.Suresh	Assistant Professor, Department of Civil, K.S.R College of Engineering -637215	India
T.Vijayashankar	Assistant Professor, Department of Civil Engineering,K.S.R. College of Engineering (Autonomous) ,Tiruchengode	India
Sateesh Devanga Yerra	: Engineer - II, Qualcomm India Private Limited (J Building), Carina West tower, Bagmane constellation, Bangalore, Karnataka-560037.	India
Christina	Assistant Professor /ECE SNS College of Technology Coimbatore 641035	India
Mr Chitte Anil	Assistant professor, cse(data science), Institute of Aeronautical Engineering, 500043.	India
Dr.P.Sampath	Assistant professor/civil engineering, PERI institute of technology, Mannivakkam, Chennai-600048	India
Dr.Maaz Allah Khan	Department of Civil Engineering, Babasaheb Bhimrao Ambedkar University (A Central University), Lucknow UP	India
Madhuri Ganesh Pagale	Pimpri Chinchwad College of Engineering, Nigdi, pune-411044.	India
Priyank Udaybhai Trivedi	Research Student, Institute of Infrastructure Technology Research And management, Near Khokhra Circle,Maninagar	India
Ruthra R	Assistant Professor, Civil Engineering Department, St. Joseph's College of Engineering, OMR, Chennai-119	India

Abstract:

Artificial Intelligence and Machine learning-based approaches for estimating the Cost and Performance of Prestressed Steel in Concrete Bridge Construction is the present invention. The proposed invention focuses on studying the functions of Performance of Prestressed Steel. The invention focuses on analyzing the parameters of estimating Cost in Concrete Bridge Construction using algorithms of Artificial Intelligence.

Complete Specification

Description:[0001] Background description includes information that may be useful in understanding the present invention. It is not an admission that any of the information provided herein is prior art or relevant to the presently claimed invention, or that any publication specifically or implicitly referenced is prior art.

[0002] Artificial intelligence is the intelligence of machines or software, as opposed to the intelligence of humans or animals. It is a field of study in computer science that develops and studies intelligent machines. "AI" may also refer to the machines themselves. Some of these types of AI aren't even scientifically possible right now. According to the current system of classification, there are four primary AI types: reactive, limited memory, theory of mind, and self-aware.

[0003] A number of different types of prestressed steel analysis systems that are known in the prior art. For example, the following patents are provided for their supportive teachings and are all incorporated by reference.

[0004] Machine-learning-based consumption estimation of prestressed steel for prestressed concrete bridge construction:- Accurate prediction of the prestressed amount is essential for a concrete-road bridge's successful design, construction, and long-term performance. Predicting the amount of steel required can help optimize design and construction process, and also help project managers and engineers estimate the overall cost of the project more accurately. The prediction model was developed using data from 74 constructed bridges along Serbia's Corridor X. The study examined operationally applicable models that do not require in-depth model expertise to be used in practice. Neural networks (NN) models based on regression trees (RT) and genetic programming (GP) models were analyzed. In this work, for the first time, the method of multicriteria compromise ranking was applied to find the optimal model for the prediction of prestressed steel in prestressed concrete bridge. The optimal model based on GP was determined using the VIKOR method of multicriteria optimization; the accuracy of which is expressed through the MAPE criterion of 9.16%. A significant average share of 46.11% of the costs related to steelworks in relation to the total costs indicates that the model developed in the paper can also

[View Application Status](#)



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