263_Prediction of Building Construction Cost Using MLR and ANN

Diamond Jubilee Celebrations of NIT Warangal

International Conference on Numerical Optimization in Engineering and Sciences

NOIEAS - 2019

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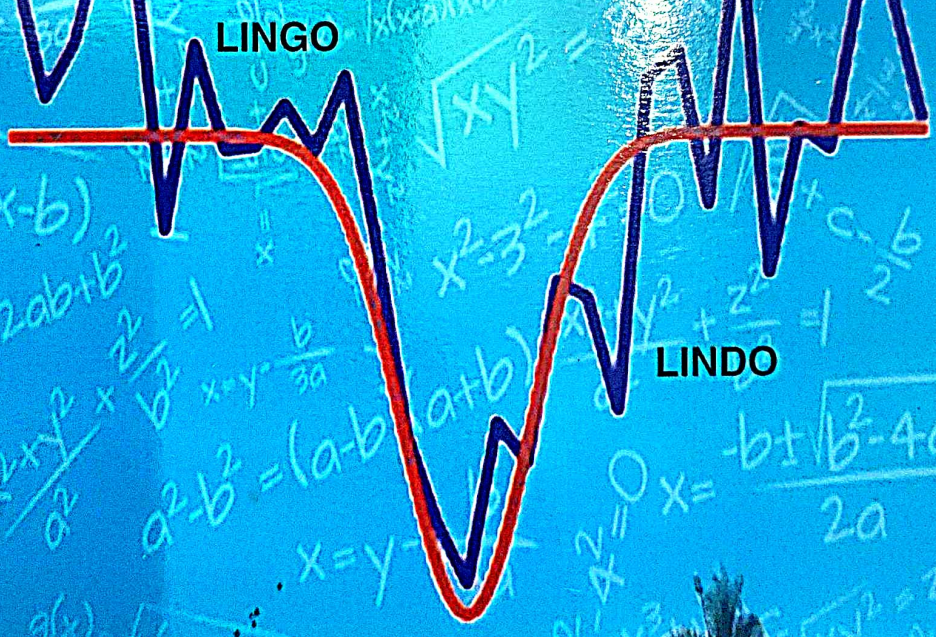

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NUMERICAL OPTIMIZATION IN ENGINEERING & SCIENCES
NOIEAS – 2019
(Under TEQIP-III)

NATIONAL INSTITUTE OF TECHNOLOGY WARANGAL
DEPARTMENT OF MATHEMATICS

Certificate

This is to certify that.....VIREN...B.....CHANDANSHIVE..... from..Sardar..Patel...College..of...Engineering..,Andheri....Mumbai..... has *Presented a Paper / Participated* in the Three Day International Conference on *"Numerical Optimization in Engineering & Sciences"* organized by the Department of Mathematics, National Institute of Technology Warangal during 19 – 21 June, 2019.

Prof. Debashis Dutta	Prof. L. Krishnanand	Prof. D. Srinivasacharya	Prof. N.V. Ramana Rao
Convener	Coordinator, TEQIP-III	HOD, MATHS	Director

Advanced Weather Research and Forecasting (ARW) model has a wide range of applications for both the operational and research purpose. In this paper, an attempt has been made to investigate the sensitivity of seven Microphysical Parameterization (MP) schemes namely lin, wsm3, wsm5, wsm6, ferrier, morrison, and thompson schemes in the simulation of Very Severe Cyclonic Storm (VSCS) Titli (2018) occurred in the Bay of Bengal region for the track and rainfall intensity using ARW model. The cyclone track and intensity are simulated in terms of minimum Mean Sea Level Pressure (MSLP), and maximum surface wind. The results are verified with observations provided by the Indian Meteorological Department (IMD). From the results, it was observed that Ferrier scheme has provided best track and intensity forecasts for the selected cyclone.

CE112: Prediction of Building Construction Project Cost Using Multiple Linear Regression and Artificial Neural Network

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The prediction of building construction cost becomes very crucial task at the early stage of construction due to lack of design data and limited available information. The prediction of project cost with higher degree of accuracy plays an important role in the success of every construction projects. The objective of this study is to develop Artificial Neural Network (ANN) and Multiple Linear Regression (MLR) model to predict the project cost at the early stage. Based on a literature survey and expert advice from the design professionals of Indian con-struction industry, the most influential eleven cost parameters are applied as input parameters while the project cost is the output parameter. A dataset of 78 building construction projects was collected from Mumbai (India) and its nearby region. The results obtained from the developed ANN and MLR model shown that, it is able to predict the cost of building construction projects. The coefficient of correlation *(R)* was about 0.9886 and the error criteria, the Mean Squared Error (MSE) 0.00081 of ANN model indicates that the ANN has better prediction and performance over the MLR model. This study contributes to construction man-agement and provides a general idea about the project cost which will be helpful to the investors.

CE113: Optimizing Effective rotavator design towards enhancing agricultural crop productivity and minimizing water consumption

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Rotavator can play an important role in double or multiple cropping systems where the time for land preparation is very less or limited.It is used for mixing manure or fertilizers into soil and for seedbed preparation. It offers an advantage of superior soil mixing, better pulverisation, rapid seedbed preparation and reduced draft compared to conventional tillage.In this experiment the entire 9 acre land is divided into 18 equal plots. The combination of seedbed preparation and