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| Book Name: | [Geography, Earth Science and Environment: Research Highlights](https://www.bookpi.org/bookstore/product/geography-earth-science-and-environment-research-highlights-vol-1/) |
| Manuscript Number: | **Ms\_BPR\_4249** |
| Title of the Manuscript: | **WEATHER BASED RICE CROP YIELD FORECASTING USING DIFFERENT REGRESSION TECHNIQUE & NEURAL NETWORK APPROACH FOR PRAYAGRAJ REGION** |
| Type of the Article | **Book chapter** |

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| PART 1: Comments | | |
|  | Reviewer's comment | Author's Feedback*(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)* |
| **Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimumof 3-4 sentences may be required for this part.** | This manuscript offers important perspectives on crop yield prediction, a vital topic for tackling global food security issues. By comparing regression techniques and neural networks, the study highlights the strengths and limitations of both approaches in the context of agricultural forecasting. The results hold considerable importance for decision-makers, agricultural producers, and scholars focused on enhancing the precision of yield forecasts and optimizing agricultural strategies. The emphasis on Prayagraj also enhances practical significance, illustrating how localized weather data can contribute to predictive modeling. |  |
| **Is the title of the article suitable?**  **(If not please suggest an alternative title)** | The title is suitable as it reflects the study's focus. However, for improved clarity and academic precision, an alternative title could be: "Weather-Based Rice Yield Prediction Using Regression Techniques and Neural Networks: A Case Study for Prayagraj Region." |  |
| Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here. | The abstract is thorough; however, it would benefit from a concise mention of the key weather parameters utilized, such as Bright Sunshine Hours and Evapotranspiration, along with their significance. Furthermore, the conclusion should highlight the reasons behind the superior performance of regression models compared to ANN models, thereby offering a more robust summary of the findings. |  |
| **Is the manuscript scientifically, correct? Please write here.** | The manuscript demonstrates scientific accuracy, featuring a thoroughly documented methodology and suitable performance metrics including RMSE, nRMSE, and 𝑅². Nevertheless, a comprehensive discussion regarding the reasons behind the underperformance of ANN models in comparison to regression models would strengthen the scientific validity and offer deeper insights into the constraints of the machine learning methodology. |  |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.**  **-** | The references provided are adequate and encompass pertinent studies. Incorporating more recent publications (post-2020) on the application of advanced neural networks (e.g., CNNs, RNNs) in agricultural forecasting would enhance the study's context and ensure it reflects the latest developments in the field. |  |
| Is the language/English quality of the article suitable for scholarly communications? | The language is appropriately aligned with the standards of academic discourse. Nevertheless, it is advisable to implement minor grammatical enhancements and restructure sentences to improve overall readability and flow. |  |
| Optional/Generalcomments | * Incorporating graphical representations like time-series plots or residual analysis would enhance data visualization and facilitate better understanding for the reader. * A more thorough examination of the factors contributing to overestimation or underestimation in specific years would enhance the discourse. * Providing more details on the ANN architecture and the optimization process would enhance the technical rigor of the manuscript. |  |

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| **PART 2:** | | |
|  | **Reviewer’s comment** | **Author’s comment***(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)* |
| **Are there ethical issues in this manuscript?** | *(If yes, Kindly please write down the ethical issues here in details)* |  |

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| **Reviewer Details:** | |
| Name: | **Udaya Kumar Addanki** |
| Department, University & Country | **Gayatri Vidya Parishad College of Engineering for Women, India** |