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1052 / Sukemi et al. / Path Loss Prediction Accuracy Based On Random Forest Algorithm in Palembang City Area

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Round 1 Status

Submission accepted.

Notifications

[INTE] Editor Decision

2022-12-13 02:54 PM

Notifications



[JNTE] Editor Decision

2022-12-13 02:54 PM

Sukemi -, Ahmad Fali Oklilas, Muhammad Wahyu Fadli, Bengawan Alfaresi:

We have reached a decision regarding your submission to JURNAL NASIONAL TEKNIK ELEKTRO, "Path Loss Prediction Accuracy Based On Random Forest Algorithm in Palembang City Area".

Our decision is to: Revision Required (Accepted with (Major/Minor) Revision).

Jurnal Nasional Teknik Elektro (JNTE) change the publishing article language to a full English edition for the published article on July 2021 and the next volume (see the announcement here: <http://jnte.ft.unand.ac.id/index.php/jnte/announcement>). Please convert your article to an English article version and attach the proofreading result of your article.

Please note the following points:

1. The author responds to the reviewer's question by attaching the answer file.
2. The article has a minimum of 20 references.
3. Check the writing format.
4. The abstract consists of background and objectives, methods, results, and conclusions.



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Review Discussions

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AUTHOR RESPONDS

Reviewer A

Comments	Action by author
1. The author responds to the reviewer's question by attaching the answer file.	Noted (We have included this suggestion in a file titled reviewer's comments by author)
2. The article has a minimum of 20 references.	Noted (We have included this suggestion in the references)
3. Check the writing format.	Noted (We have checked based on the journal template)
4. The abstract consists of background and objectives, methods, results, and conclusions	Noted (We have included this suggestion in the abstract)
5. The objective of the research should be clear in the introduction section.	Noted (We have included this suggestion in the introduction section)
6. The method describes the research design, data collection, and analysis.	Noted (We have included this suggestion in the methodology section from 2.1 to 2.7)
7. The conclusion clarifies the objective of the research	Noted (We have included this suggestion in the conclusion)

Reviewer B

Comments	Action by author
Does the title of the paper clearly reflect its contents? Average. The title already contains most of the following components: (1) problems, (2) methodology, and (3) general conclusions from achievements.	Noted
Is the abstract sufficiently informative?	Noted

<p>Average. Abstracts already describe the background/problem, methods, results, and conclusions, but are less informative.</p>	
<p>Does the introduction establish the originality of the research aim by demonstrating the need for investigations in the topic area?</p> <p>Average. The introduction supports the research problem. The state of the art of this research is mentioned with some references but needs minor revision.</p>	Noted
<p>Is the research methodology clear?</p> <p>Below Average. The research method describes the steps for solving problems, describing how the data is taken and processed/analyzed. But, it has major revision.</p>	Noted
<p>Are the results and discussion logically derived from the theoretical/experimental work?</p> <p>Below Average. The results section is able to show the main findings of research that comes from experimental or theoretical work. Describe the interpretation of the results obtained and comparing with other references. But, it has major revision.</p>	Noted
<p>Are the bibliography presented in accordance with the requirements?</p> <p>Average. The references are relevant and important for the validation of the research carried out, the article has met the minimum requirements of 20 references and is properly cited.</p>	Noted
<p>Are the conclusions clear and logical?</p> <p>Average. The conclusion shows the importance of the research carried out related to the problems and provides</p>	Noted

solutions that have been carried out and provides impetus to carry out further research. It has minor revision.	
1. Writing manuscripts in English needs to be improved, especially grammar	Noted (We have used professional proofreading and editing services by TrueEditors)
2. The use of single and plural word forms in English in this manuscript should be improved	Noted (We have used professional proofreading and editing services by TrueEditors)
3. Do not use Indonesian for subtitles on pictures and tables. (as in picture 5)	Noted (We have written according to the reviewer's request in figure 5)
4. What is the difference between this research and other research conducted by R. He, Y. Gong, W. Bai, Y. Li, and X. Wang in reference number 19? Give an explanation ini detail.	Noted (We have include references to 19 studies in purpose to take a sentence in deriving the definition of Random Forest)
5. How do you determine the correlation score in table 4? Give an explanation.	Noted (We determine the correlation score through a graphical method called with Heatmap. The heatmap will display the attributes score for each class (variables) in a two-way matrix)
6. The process carried out using the random forest algorithm method is not explained in detail	Noted (Figure 3 and the explanation below may be what is meant)
7. The text states that 80% of the data set is training and 20% is the data set testing. Where is both kind of date obtained from?	Noted (The corridor 5 busway were splitting into training data to train the model and test data is used to determine whether the built model is already correct or not)
8. Give an explanation of the hyperparameter tuning, how it works in this research and how can the improve the MAPE and RMSE values	Noted (Hyperparameter tuning is used in Random Forest algorithm where a specific set of parameter values is entered before the learning process of a model begins. We use a library called RandomisedSearchCV to tune the hyperparameters which using this library will look for the best values from a set of parameters. Once the optimal value has been obtained, all that is left to do is insert the value into each parameters)
9. Acknowledgement is not clear	Noted (We would like to acknowledge our gratitude to our late colleague Mr. Reza Firsandaya Malik for his guidance and advice and finally we made this paper work possible. He was also part of the research team before this paper was written and contributed a lot)

Reviewer C

Comments	Action by author
<p>Does the title of the paper clearly reflect its contents?</p> <p>Average. The title already contains most of the following components: (1) problems, (2) methodology, and (3) general conclusions from achievements.</p>	Noted
<p>Is the abstract sufficiently informative?</p> <p>Poor. Abstract does not describe the background/problem, methods, results, and conclusions.</p>	Noted
<p>Does the introduction establish the originality of the research aim by demonstrating the need for investigations in the topic area?</p> <p>Below Average. The introduction partly supports the research problem. The state of the art of this research is mentioned with few references but needs major revision.</p>	Noted
<p>Is the research methodology clear?</p> <p>Below Average. The research method describes the steps for solving problems, describing how the data is taken and processed/analyzed. But, it has major revision.</p>	Noted (We have written how the data is taken and processed in the revision of the paper in point 2.4.)
<p>Are the results and discussion logically derived from the theoretical/experimental work?</p> <p>Below Average. The results section is able to show the main findings of research that comes from experimental or theoretical work. Describe the interpretation of the results obtained and comparing with other references. But, it has major revision.</p>	Noted

<p>Are the bibliography presented in accordance with the requirements?</p> <p>Average. The references are relevant and important for the validation of the research carried out, the article has met the minimum requirements of 20 references and is properly cited.</p>	<p>Noted</p>
<p>Are the conclusions clear and logical?</p> <p>Average. The conclusion shows the importance of the research carried out related to the problems and provides solutions that have been carried out and provides impetus to carry out further research. It has minor revision.</p>	<p>Noted</p>
<p>1. Need more work for the English, please find an English proof-reader.</p>	<p>Noted (We have used professional proofreading and editing services by TrueEditors)</p>
<p>2. One paragraph should have only one main idea, and supported sentences. Please state research objective in abstract and introduction.</p>	<p>Noted (We have added it in the abstract section)</p>
<p>3. The methodology of the research should clear and written under method/methodology section. Do not locate it in Data section.</p>	<p>Noted (We have written how the data is taken and processed in the revision of the paper in point 2.4.)</p>
<p>4. Based on table 4 , path loss has strong relation with frequency. Why the authors do not include frequency variable in the research?</p>	<p>Noted (In short, the similarity of a pattern at the same time is what determines the correlation value. The high correlation score does not necessarily have a causal relationship. From the Table 4 above, both LTE Serving Cell Distance and Frequency have high correlation with PUCCH Path Loss_All Logs. LTE Serving Cell Distance is the distance between the transmitter antenna with the receiver which proves that the greater the distance between the two, the greater the path loss would be obtained due to factors such as more obstacles. From those, we can indicate that both of variables have a causal relationship. Frequency and PUCCH Path Loss_All Logs have a strong correlation but they do not have a causal relationship. It was discovered that there were two types of frequency bands, they are 1800 MHz and 2100 MHz. Based on the data, it shows that the path</p>

	<p>loss values at each location along the busway corridor are under the two types of frequency bands, they are 1800 MHz and 2100 MHz which are only categorization and there is no causal relationship with path loss. Through these causal analysis, we would train random forest algorithm to make it as a trained model for predicting path losses by using the LTE Serving Cell Distance variable as an input variable)</p>
<p>5. Figures are too small to read. Please use both columns to make the figures clearly and readable. Use English in your figures</p>	<p>Note (We have tried to enlarge it)</p>
<p>6. Use English in your figures</p>	<p>Noted (We have written according to the reviewer's request in figure 5)</p>
<p>7. Are numbers in Table 5 correct? Since they are different from that states in paragraph.</p>	<p>Noted (Sorry it was mistaken in written on the table, the results on the table should be the same as in the pharagraph below but we fixed it already)</p>
<p>8. The ACKNOWLEDGMENT is optional. You can skip if you do not have anything to acknowledge</p>	<p>Noted (We have added it in the acknowledgment section)</p>