

## COVER LETTER

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20<sup>th</sup> January 2022

Dear,

I/We wish to submit an original research article entitled **“Defect Classification of Radius Shaping in The Tire Curing Process using Fine-Tuned Deep Neural Network”** for consideration by SINERGI.

I/We confirm that this work is original and has not been published elsewhere, nor is it currently under consideration for publication elsewhere.

In this paper, I/we report on / show that:

|                     |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Topic               | : | Defect Classification using Deep Learning Method                                                                                                                                                                                                                                                                                                                                                                        |
| Brief Background    | : | Tire curing is the last stage of the tire manufacturing process. Green tires produced from the assembly process are then fed into the curing area for vulcanization. The curing process is vulcanization with high temperature and pressure without polymer (rubber) with carbon black and sulfur with the help of chemical compounds to obtain the required characteristics so that it becomes a quality tire product. |
| Research Problem    | : | In the green tire vulcanization process, there are still defects or products that can reduce product quality Under Cure defects in green tire production have a percentage of 40%. Our research classified crown bare (CB) defect and crack inner liner (CIL) defect that occurs by pressures, actual radius, delay, and rim size.                                                                                      |
| Overview of Method  | : | Defect Classification of Radius Shaping in The Tire Curing Process using Fine-Tuned Deep Neural Network                                                                                                                                                                                                                                                                                                                 |
| Significant finding | : | The radius shaping dataset was trained over 12 particular DNN Models. The DNN was trained with the training accuracy of 97.88%, the validation accuracy of 95%, the testing accuracy of 100%, and the loss of 4.93%. The model also has the precision, recall, and f1-score of 100%.                                                                                                                                    |

We have no conflicts of interest to disclose.

Thank you for your consideration of this manuscript.

Sincerely,  
Zendi Iklima



## AUTHORSHIP STATEMENT

I/We wish to submit an original research article entitled “**Defect Classification of Radius Shaping in The Tire Curing Process using Fine-Tuned Deep Neural Network**” for consideration by SINERGI.

All persons who meet authorship criteria are listed as authors, and all authors certify that they have participated sufficiently in work to take public responsibility for the content, including participation in the concept, design, analysis, writing, or revision of the manuscript.

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## POTENTIAL REVIEWERS

Please submit 3 (three) potential reviewers (*that have not listed in SINERGI*) to speed up the review process that competent for the topic and has a good reputation in that area.

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