

COVER LETTER

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Dear,

I/We wish to submit an original research article entitled "**Comparative Study of CNN Techniques for Tuberculosis Detection Using Chest X-Ray Images from Indonesia**" for consideration by SINERGI.

We confirm that this work is original and has not been published elsewhere, nor is it currently under consideration for publication elsewhere. We promise not to withdraw this article after it has been processed by the Editorial Team. If there is a withdrawal, we are willing to pay a penalty of USD 150 (IDR 2000K) to the SINERGI Editorial Team.

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

Field	:	Electrical Engineering
Topic	:	Artificial Intelligent
Brief Background	:	Tuberculosis (TB) is a contagious disease caused by Mycobacterium tuberculosis, often diagnosed using chest X-ray images analyzed by radiologists. However, the shortage of specialist radiologists in developing countries, such as Indonesia, leads to diagnostic delays and potential errors due to fatigue. Indonesia ranks second in TB cases globally, with approximately 969,000 cases and 93,000 deaths annually. Thus, there is a need to use a machine learning approach for initial screening or diagnosis of TB.
Research Problem	:	There is a need for more efficient TB diagnosis methods to assist overburdened healthcare workers. While machine learning (ML) techniques have been applied for TB detection using chest X-rays, most studies focus on global datasets and lack deployment solutions for healthcare professionals. Additionally, limited research uses local datasets, particularly from Indonesia.
Overview of Method	:	This study implements Convolutional Neural Networks (CNN) to analyze chest X-ray images from a private

		dataset collected in Palembang, Indonesia. The model is deployed with a user-friendly web interface using the Gradio library, enabling easier access and more efficient diagnosis for healthcare professionals.
Significant finding	:	The study contributes by developing a web-based interface for TB detection using a CNN model on an Indonesian dataset and comparing three deep learning architectures for TB identification. This deployment approach aims to improve the speed and accuracy of TB diagnosis in resource-limited settings.

We have no conflicts of interest to disclose.

Thank you for your consideration of this manuscript.

Sincerely,
Suci Dwijayanti



AUTHORSHIP STATEMENT

I/We wish to submit an original research article entitled “[*title of article*]” 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 send 3 (three) prospective reviewers (who are not yet registered in SINERGI) to speed up the review process who are competent for the topic and have a good reputation in the field. Please ensure that **they are willing to review** this paper.

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