IJARSCT



International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)

International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal

Volume 3, Issue 1, June 2023

Optimization of Resnet50 using Random Search for Face Recognition

Shem L. Gonzales

Faculty, College of Engineering and Information Technology, Surigao del Norte State University-Del Carmen Campus, Philippines slgonzales@ssct.edu.ph

Abstract: This study used the ResNet50 architecture and optimum configurations performed by Random Search to provide the values of an exhaustive investigation into the field of face recognition using Transfer Learning approach. The model's outstanding capability to succeed in an image classification task is demonstrated by its performance measures, which include precision (99.60%), recall (99.58%), and F1-score (99.59%). These findings highlight the importance of hyperparameter optimization as well as the capability of well-structured deep-learning models to produce astounding levels of accuracy and reliability.

Keywords: Hyperparameter Optimization, Random Search, ResNet50, Transfer Learning

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DOI: 10.48175/IJARSCT-11916

