

## **Abstract**

Forest and land fires has been one of the problematics in Indonesia, particularly in Borneo. Indonesia contributes for a considerable proportion of Southeast Asia's forest area and currently occurring one of the world's highest deforestation rates, second to Brazil. Forest fires occur periodically during the dry season where the lands are covered by peat land. Along with climate change, regions that have a great fuel consumption are becoming susceptible to the intensity of forest fire. Forest fire prediction has become important to prevent forest fire from occurring and to make first response when the fire occurs. The model for forest fire prediction represents an essential tool to predict forest fire risk, damage, forest fire monitoring and extinction phase, and to assist in the fire control planning and protecting both human life and property. We proposed a combination of three methods called GAF-CNN-LSTM that uses image input to predict carbon emission as the factor of forest fire. This study aims to create a model that can predict forest fire hotspot accurately. The result shows that the proposed method performed better than the LSTM only method by having a better loss value and loss reduction in each iterations. Although the proposed method haven't read the patterns correctly since the model only uses per location modelling.

**Keywords:** Forest Fire, Prediction

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