

## **ABSTRACT**

*Green beans (Phaseolus vulgaris) are an important source of nutrition for humans, containing protein, fiber, calcium, phosphorus, potassium, vitamin A and vitamin C. With increasing consumption of green beans, increased production is needed to meet these needs. However, disease attacks such as angular leaf spot and bean rust can cause crop failure by damaging the leaves of bean plants. Angular leaf spot is caused by the bacteria Pseudomonas syringae pv. Lachrymans, while bean rust is caused by a fungus, causes brown angular spots on the leaves or rust-like spots in yellowed areas. To overcome this problem, the author proposes disease classification in bean plants through leaf image analysis using the application-based MobileNetV3 and VGG19 architecture.*

*The results of this research are that MobileNetV3 is superior in 2 of the 3 scenarios created. In the first scenario, the MobileNetV3 architecture has an accuracy of 96.90% and VGG19 of 92.2%. In the second scenario, the VGG19 architecture excels with an accuracy of 98.81% and MobileNetV3 at 97.65%. And in the third scenario, the MobileNetV3 architecture is superior with 96.51% and VGG19 with 92.44%. Apart from that, the model produced by MobileNetV3 is only 13,2 MB while VGG19 is 77,4 MB. The size of this model affects the speed of the application in predicting the condition of the uploaded image, where processing images using the MobileNetV3 model is faster than using the VGG19 model. So it can be concluded that in terms of performance, MobileNetV3 is superior in this case.*

*Keywords: Bean leaf, Classification, MobileNetV3, VGG19*