

# **RANCANG BANGUN SISTEM PENGERING TEMBAKAU MENGUNAKAN ESP-32 CAM BERBASIS PENGOLAHAN CITRA**

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## **ABSTRACT**

*Tobacco leaves are the primary raw material for making cigarettes. There are various post-harvest processing of tobacco leaves to be used as raw material for cigarettes. One of them is the flue-cured drying process. The flue-cured drying process involves drying tobacco leaves using hot airflow in an oven (curing-barn). In drying tobacco using flue-cured, there are several phases of temperature regulation that are adjusted to the degree of dryness of the tobacco leaves. With advances in technology, the drying process does not need to be done by farmers when using an automatic tobacco dryer. To detect the dryness level using image processing and adjust the temperature stability of the drying system using an element heater controlled using the ESP-32 CAM. The camera sensor will read the image from the tobacco leaf's colour, whether green or brown. The camera sensor gives commands according to the colour captured and sends data signals executing actuator function i.e. fans and heaters. From the 30 sample tests consisting of 15 green tobacco leaves (wet) and 15 brown tobacco leaves (dry), it can be concluded that the prototype made can achieve the expected success. The accuracy and precision rate is more than 80% with details of 90% accuracy value, value 100% precision and 80% recall.*

**Keywords:** *ESP-32 CAM, Drying system, Element heater*