

## **ABSTRACT**

*Kitchen is a place where food and drinks are processed until they are ready to be served and every home must have a complete kitchen room for cooking food. In the smoke content from the cooking process there are harmful gases such as CO (Carbon Monoxide), CO gas is categorized as a dangerous gas because it can cause respiratory problems.*

*The problem that arises is that smoke and harmful gases such as CO from the cooking process are not filtered properly and are directly discharged into the free air which can cause pollution. Therefore, it is necessary to filter beforehand so that the smoke can be reduced first by using the ionization method and using the logic of the Fuzzy Interference System as an automatic fan speed regulator.*

*The purpose of this study is to use a Fuzzy Interference System (FIS) control system as a DC fan speed regulator in order to minimize the increase in CO and smoke levels in the area around the stove during the cooking process with a success percentage of 30% and also reduce smoke from the cooking process with a percentage success of 30% by using the ionization method.*

*The conclusion of this study is that the application of FIS as a fan rotational speed decision succeeded in minimizing the increase in CO levels by 37.32% and smoke by 31.80% and the ion generator succeeded in reducing smoke from the cooking process by 31.83%, which is where this according to the purpose of this research.*

**Keywords:** *Cooker Hood, Fuzzy Interference system, MQ7, MQ2, Ionization.*