

## **ABSTRACT**

*The flight steering control system on the N219 aircraft uses two flight steering control systems, namely is Primary Control System and the Secondary Control System. The author takes focus on the Secondary Control System on the flap of an N219 aircraft.*

*Flap is a cross section found on the back of an aircraft wing that can move up and down. Flap on the aircraft serves as braking during landing. When the plane landing, the flap angle will open between 30 until 40 degrees depending on the drag required by the aircraft. On N219 aircraft, aircraft flaps during landing are controlled manually by pilots. To open a flap, pilots often use their own feelings to be able to determine when or not the flap can be open at a certain speed. The plane crashes due to human error during landing where the flaps is late or too fast is issued, which causes the aircraft to lack drag and make the plane crash. This encourages the research of this final project, to control aircraft flaps automatically based on the aircraft speed and aircraft altitude at landing.*

*In this final project, to control N219 flaps aircraft automatically, the design of the system uses a microcontroller as the brain to process data from sensors and use the Fuzzy Logic method and the input is based on the aircraft speed and aircraft altitude. This trial will be applied to the prototype flap N219 aircraft.*

**Keywords:** *Automatic N219 Flap Motion Control System at Landing Time, Fuzzy Logic Control, Barometer, GPS.*