**Abstract— Several Internet of things (IoT) based smoke or fire detection designs have been made in previous research and a study has shown that the IoT system can implement fire sprinklers using a water pump controlled by microcontroller. However, control systems with proven methods such as Fuzzy Inference System (FIS) need to be implemented in the system and evaluated to improve the control system. This research focuses on designing and evaluating a smart fire sprinkler device prototype that can detect and extinguish fires based on the FIS classification and send the information to an android application using IoT. The FIS classification proposed in this study uses Tsukamoto inference based on several inputs taken from three sensors, which are a fire sensor, a temperature sensor, and a smoke sensor. Four fire conditions represent four different levels of sprinkler output: smoke, small fire using burnt straws, medium fire with a candle, and large fire using burnt paper balls. Through testing, the success rate of the system in classifying fire and extinguishing the fire has a macro average F1 score of 90%.**

***Keywords— fire detection, fire extinguishing, Internet of things, Fuzzy Logic Tsukamoto, sprinkler***