ABSTRACT

Drone development and adaptation have been gradually involved in humans daily life, including in search and rescue (SAR) sector. Under the context of rescue mission, drone can be utilized to perform sound localization such as human shout or emergency whistle using a Sound Source Localization (SSL) and Sound Event Detection (SED) techniques when visual perception is unreliable. However, new challange appears as the drone's motor noise disturb the sound identification.

This study will try to implement and analize the performance of SSL and SED over a emergency whistle with a microphone array mounted onto a drone. The study will cover the applications of Sound Event Localization and Detection Network (SELDnet) and spectral-gating to boost SSL and SED accuracy under the influence of ego-noise. Besides that, Fourier Transform (FFT) will be used to extract features within the audio data

This study focued to reduce ego-noise which allows the drone to detect sound sources more accurately. By handling this challange, the proposed study hopes to give a huge contribution in SAR mission, specifically in situations where emergency whistle pose as a critical information

keywords: *SELDnet, drone, SSL, ego-noise, SAR, Microphone Array*