

**CLASSSSIFICATION: SNAKE SPECIES
IDENTIFICATION THROUGH UNIQUE FEATURES
USING COMPUTER VISION**

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A dissertation submitted in partial fulfilment of the requirement for the Bachelor of
Engineering (Honours) degree in Software Engineering

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in collaboration with
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2020

Abstract

Identification of a snake to its species is very important, as it determines the treatment to be provided to a snakebite victim. Administering the incorrect treatment leads to detrimental effects and loss of life. Research has been conducted on using computer vision for snake species identification; though it has not been done using important external information to give a more accurate result. Previous research has only used images during identification, and this leads to incorrect results, especially when there are similar looking snake species in the country. In these cases, the location and time of a sighting weight heavily in producing an accurate identification.

The solution proposed in this research identifies snakes by not just its image, but external information in the form of the location and time of the snake sighting. Using this information helped sway the identification of similar looking species to the correct side. Near perfect identifications of the test set were achieved during quantitative evaluation. Storing these identification results to display a real-time distribution of these sightings, could be used by governmental authorities for a multitude of reasons. This solution can be used in both critical scenarios, to geotag live sightings, and educational purposes, as a simple image-only classification for those interested in knowing more on the snake.

Subject Descriptors – I.4.0 Image Processing and Computer Vision; I.2.0 Artificial Intelligence.

Keywords – Computer Vision, Image Classification, Snake Species Identification, Convolutional Neural Networks