

**UNIVERSITI TEKNOLOGI MARA**

**MOBILE APPLICATION:  
SNAKE SPECIES IDENTIFICATION  
USING TRANSFER LEARNING**

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## **STUDENT DECLARATION**

I certify that this thesis and the project to which it refers is the product of own work and that any idea or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline.



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## **ABSTRACT**

Around the globe, an approximately 5.4 million snake bites happened each year which kills 81,000–138,000 people and disables 400,000 more (Bolon et al., 2020). The fact that the majority of snake bite victims have no awareness of the species that attacks them is a major issue. This caused a host of concerns, including the fact that they were unaware of the danger and the venom's effect on their bodies. There will also be the problem of people attempting in harming the snake without first understanding the species' level of danger (poisonous or non-poisonous) which will put them at a higher risk of injury. This works presents the uses of snake species identification application in order to specify different snake species based on the image as a way to combat the problem. The project motivation is to ensure that all people, particularly those living in rural places, are able to recognize snake species and maximize their chances of survival. In order to persuade and ensure users that the system's technology is error-free, the application must also have a greater accuracy result. The snake species identification app will be developed using agile methodology as the development approach. The application also employs a deep learning transfer model that employs the Inception V3 architecture. User just needs to insert the snake image from gallery or snap the snake picture. The model will then evaluate the image and give the result of the snake species. The result show that the Inception V3 transfer learning has been proven accurate and effective as its gain above 92% accuracy score to classify each of the 5 snake species. The snake identification application is developed using agile methodologies. In terms of the findings, the application performed usability testing and received an overall score of 88%. The mobile app can be improved and enhanced with many capabilities. Some of the features include increasing the number of snake species dataset and identification, advance deep learning model, and online community. In conclusion its show that the mobile app will be reliable, precise and useful for the people especially people that lives in a rural area.

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