NANYANG TECHNOLOGICAL UNIVERSITY SINGAPORE
School of Computer Science and Engineering
College of Engineering

Automated Snake Classification

Applying transfer learning to implement a life-saving mobile application

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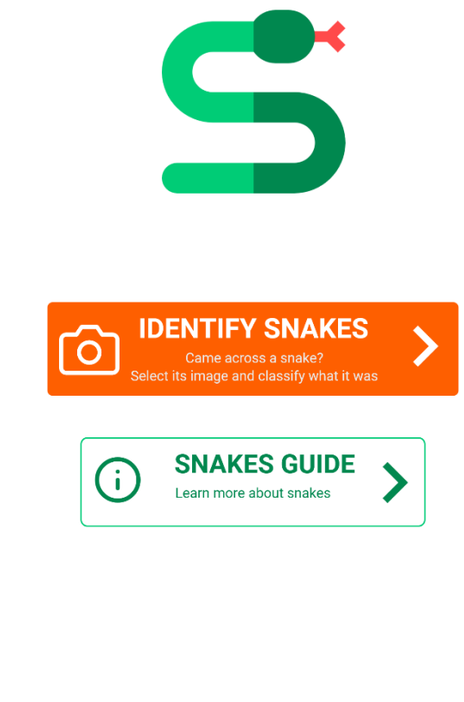
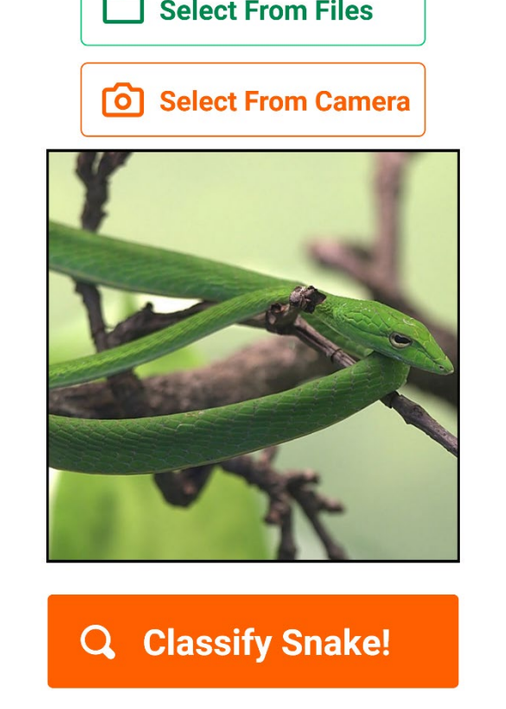
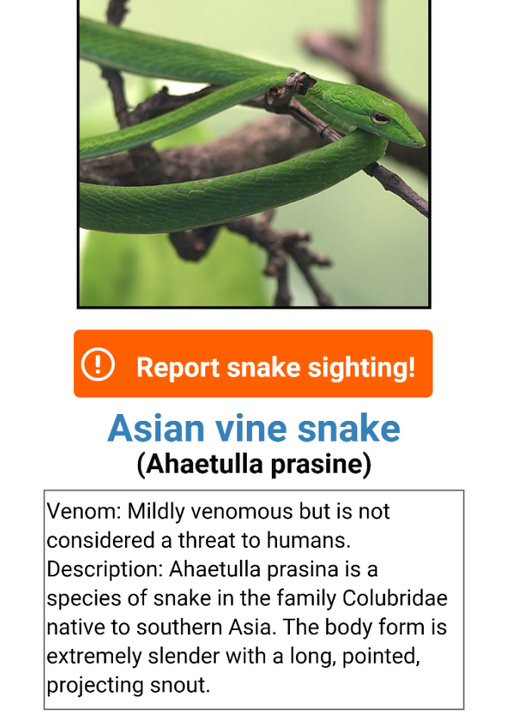
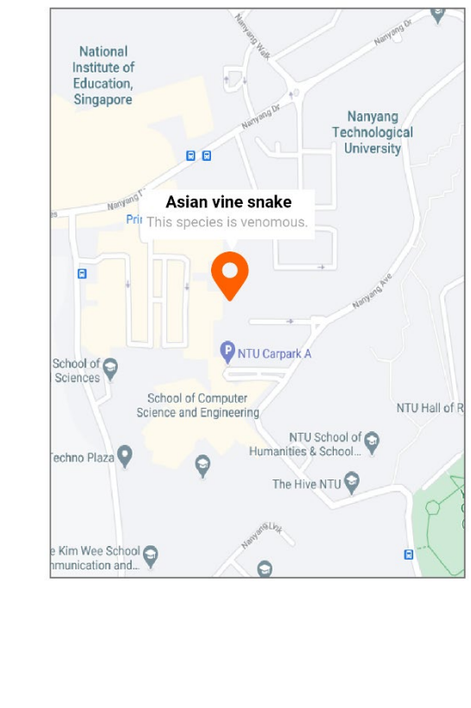


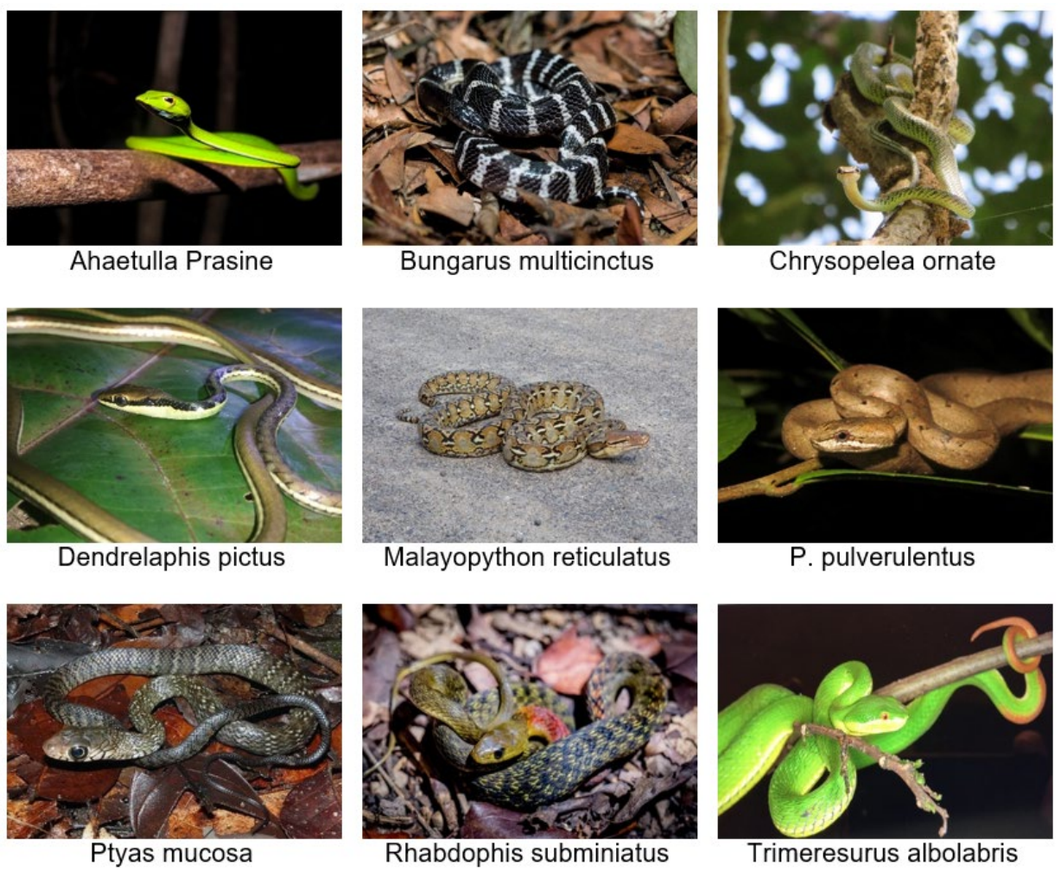






Project Objectives:

The aim of this project is to develop a robust classifier model that can be used to classify snake species commonly found in Southeast Asia in near real-time. Aside from that, this project also aims to create a lightweight and simple mobile application that can be applied to the model. In addition, the author would like to leverage the mobile application as a crowd-sourcing platform, where the images of various snakes found in the wild can be added to the training database. By doing this, an even more robust classifier model can be built.



Identifiable snake species

Transfer Learning:

By applying transfer learning method on some pre-trained models, the author have successfully achieved 89% validation categorical accuracy in snake species classification. This level of accuracy is comparable to that of human observers, and as such it is reasonable to say that the trained model is now ready for real-life usage.