NANYANG TECHNOLOGICAL UNIVERSITY
SINGAPORE

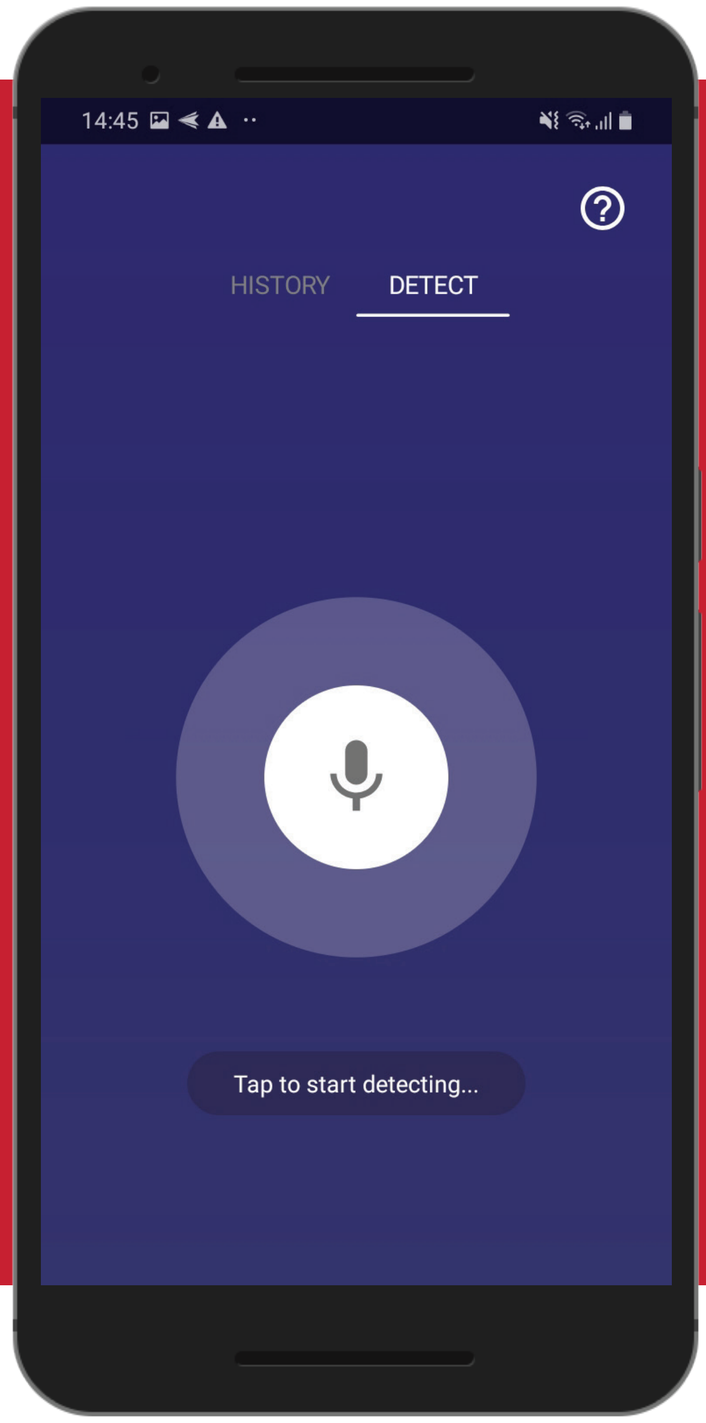
School of Computer Science and Engineering
College of Engineering

Emotion Detection from Speech

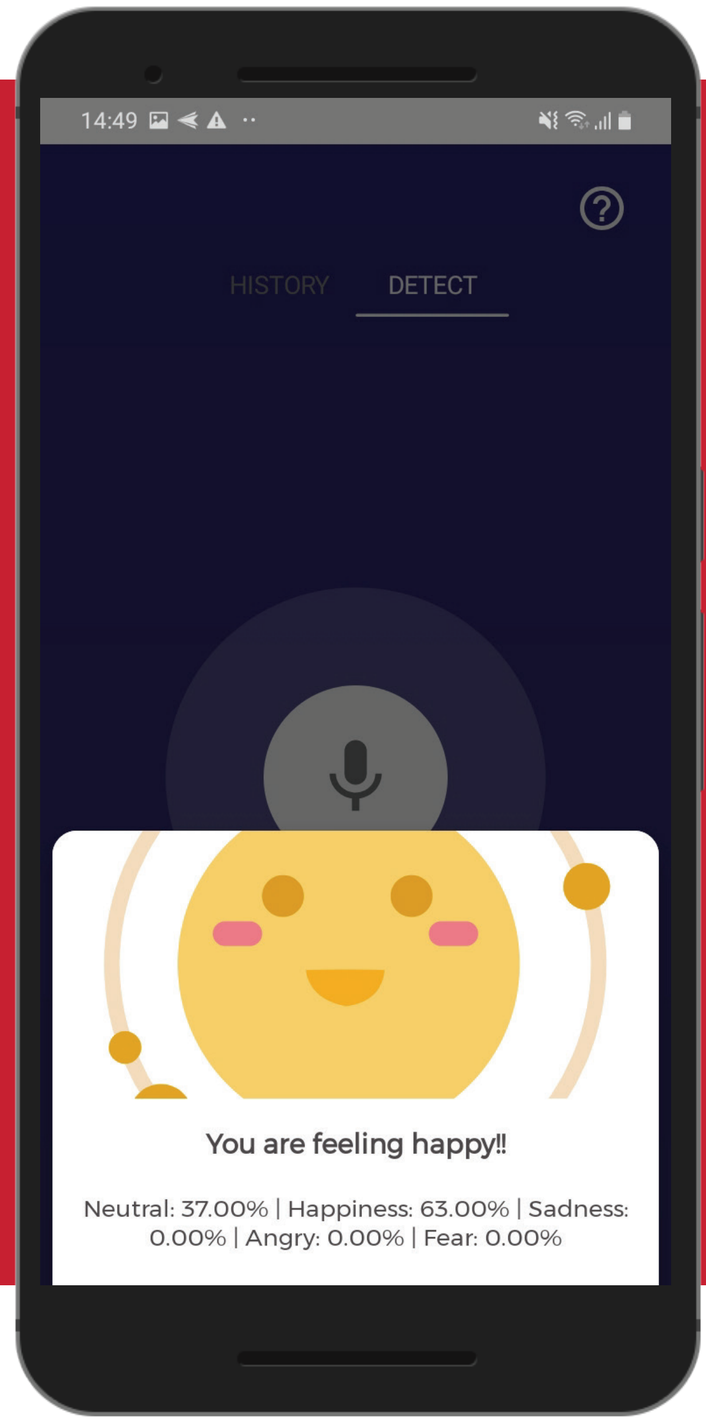
on a mobile phone

Project Objective

Design and develop an android mobile application which uses deep learning algorithm to perform accurate predictions of the five basic emotions: Neutral, Happy, Angry, Sad and Fear.



Main Screen



Prediction result screen

Project Description

Emotion recognition has emerged as one of the most important research areas, which researchers believes could be the key in achieving affective human computer interaction. To develop the deep learning algorithm, the project explores various signal augmentation methods, such as silence removal, windowing, two-step classification (first gender, then emotion) and more. In addition, research were also done in the area of feature selection, where spectral features such as MFCC, Chroma, Contrast and Tonnetz were eventually chosen to train the deep-learning model.

The project also performed various comparisons and experiments between machine learning algorithms, all with the goal of designing and choosing the best deep learning model to be used on the android mobile application.

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