INDONESIA

A Pursuit of Detecting Enthusiasm

With SERP to Increase Online Learning's Effectivity

CENTER FOR YOUNG SCIENTISTS

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Research Background

- Academic activities must be held online.
- Enthusiasm plays a crucial role in learning, but with the pandemic going on, teachers find it hard to be monitored.
- A solution is needed to help teachers monitor student's enthusiasm in their classes, enabling to better evaluate the effectivity of their teaching activities.

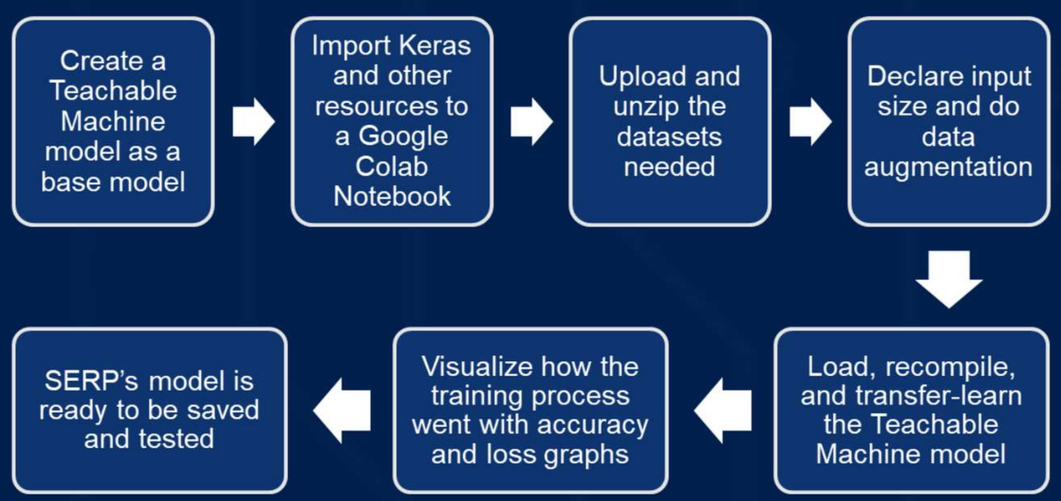
What Is SERP?

SERP is an abbreviation for Students' Expression Recognition Programme. It tells teachers whether their students are enthusiastic or not based on images of their facial expressions.

Research Methodology

- Doing preparations in the form of initial assessments and creating and training SERP's machine learning model.
- Collecting sample datas through taking pictures of myself with a set and consistent facial expression, fellow students' selfies of the tested facial expressions, and asking teachers to fill in questionnaires.
- Analyzing the collected datas to determine SERP's consistency and accuracy, and interpreting teacher's perceptions on its usage in online learning.

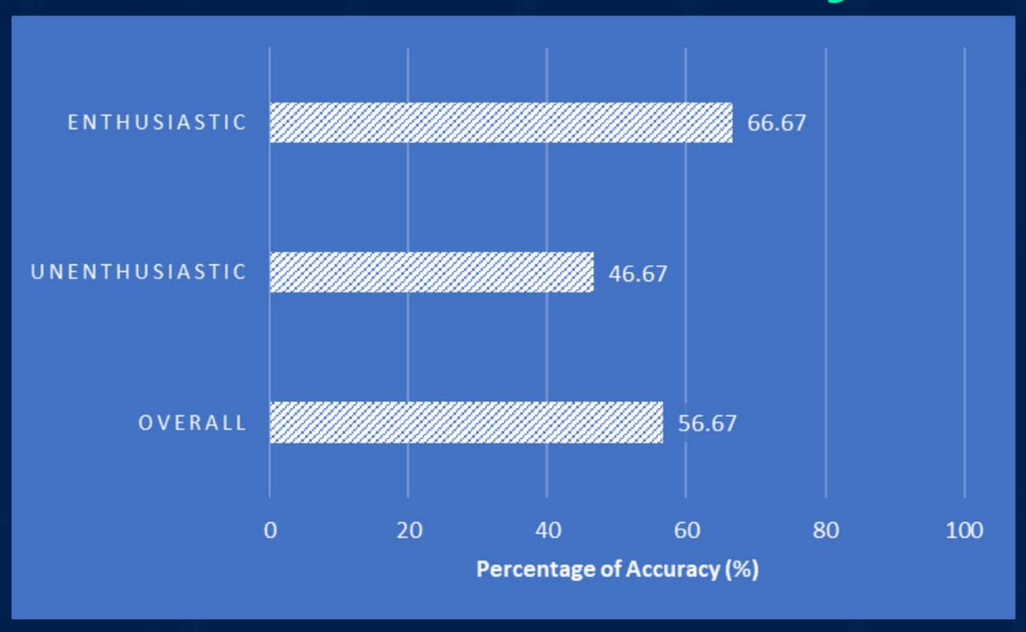
Model Creation



SERP's Consistency

1. The Pre-Determined Expression Test, which was done by inserting pre-determined images with pre-intended enthusiastic and unenthusiastic expressions into SERP to see whether it provides the same result for the same expression or not. SERP can 100% consistently detect the 140 sample images provided.
2. The Random Test, which was done by inserting random images from the internet with random facial expressions into SERP to see whether it provides the same result or not. Out of the 60 images being tested, SERP can also consistently detect all these sample images.

SERP's Accuracy



Teacher's Perceptions

Teachers welcome the usage of SERP in online learning to help them assess their teaching strategy in order to increase the level of students' enthusiasm. With that, comes effective learning activities for students even though the classes must be held online.

Conclusions

- It is important for teachers to know whether the students are being enthusiastic or not.
- While its accuracy is still not magnificent, SERP is consistent, which is a strong base to pursue a higher level of accuracy.
- Teachers welcome the usage of SERP in online learning.

Future Works

- Improve SERP's accuracy by discovering more datasets that specifically targets the enthusiastic expression.
- Reduce model's testing and training loss.
- Package SERP into an application or software in order to make it easier for teachers to use.
- SERP implementation in other areas, such as law enforcement and psychology.

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