# Weekly Report (4/7/22~4/13/22)

## Accomplishments

- Utilizing kaggle for transfer learning of CNN's, current best performance for CNN is currently 60.3% accuracy  utilizing VGG16 freezing the first 13 layers and leaving the remaining for training and class weights into consideration.
- Attempted with SIFT feature descriptor for the SVM model. However, we encountered some data type encoding errors, which is detailed in the second point of "Issue & Barriers".

## Upcoming Goal

- Exploring utilizing models ResNet101 and DenseNet169 for transfer learning of CNN's for FER-2013 classification
- Proceed to working on MNST Fashion Set, imposing an imbalance before classification

## Issue & Barriers

- When utilizing Kaggle, with the limitation of 38 hours per week for utilizing GPU, effective time usage had to be used for deciding which models to train. Currently not enough GPU for training both ResNet101 and DenseNet169 transfer learning models and need to wait till the upcoming week.
- When applying SIFT to the dataset, the number of key points and descriptors are inconsistent per each image (all images are in the same size). Therefore, I will have to see what is the maximum number of key points and descriptors and then randomly select within these ranges.

## Reference