Research Project Progress Report
Week 6 + 7 – SIT723

Student Name:	Tithra Chap
Supervisors' Names:	Assoc Professor Richard Dazeley, Dr Bahareh Nakisa, Dr Sunil Aryal
Project Title:	Emotion Recognition Using Facial Expression
SIT723 Target Grade:	HD
Overleaf Project Link:	https://www.overleaf.com/6618692772zcghdsfqcybf
Project Folder Link:	https://github.com/Tithra/SIT723.git
Worklog:	57hrs 40mins (For both week 6 and 7) https://github.com/Tithra/SIT723/blob/c8093a262c2e029f7ce643063e0cb50168b6408d/Worklog.xlsx
Project Plan	
Summary of the work planned with your supervisor:	After discussing with supervisors, I will need to build a table of literature that contains relevant papers which have good performance with FER2013 dataset using Attention Techniques. More, I need to experiment my model with CK+ dataset and present the result at next meeting. For FER2013, I need to find pre-processing techniques to improve its performance and extend number of epoch to around 100. Also I need to implement 1 cycle learning rate and integrate InceptionNet + CBAM for testing its performance.

Summary of the work done:	After these two weeks, I have built the table of literature containing relevant papers about FER203 dataset. I have produced the positive result of CK+ dataset with CBAM in facial expression recognition. I have implemented Global gamma equalization as a pre-processing of train data. I have constructed the 1 cycle learning rate and experiment it with data augmentation to improve the model accuracy. I could not integrate InceptionNet with CBAM because this network model requires at least 139 x 139 image size and GBR type, however FER2013 dataset is only 48 x 48 size and grey colour.
Next steps:	I will look for other pre-processing technique that helps FER2013 to improve the accuracy and will try to enable cross validation in training although it is very challenging because of limited computing power of google Colab and cross validation requires large amount of time to train.
Overall project progress:	Overall, the progress is on the track of project backlog. At this point, the project artifact is found to be effective with CK+ which is very promising sign that the model is a good model. Although I will try to improve its performance more on FER2013.