

CS4990 Fall 2018 Project Assignment 2

Total points: 100

Due date: Monday, October 22, 2018

Purpose:

1. Develop Deep Learning models in Python using Keras
2. Understand Deep Learning models and their potential applications
3. Gain experience in Transfer Learning

Task Description:

(Part 1 – 90 pts) Choose any one of the three options listed below to participate in a mini-competition,

- *Option 1: Age estimation from face images*
This is a regression/classification problem, and the evaluation is based on Mean Squared Error function for ranking. Please use the following link to participate in the mini-competition for this task <https://www.kaggle.com/t/211b14457f434b179421ae692b90478e>
- *Option 2: Gender classification from face images*
This is a binary classification problem, and the evaluation is based on Log Loss function for ranking. Please use the following link to participate in the mini-competition for this task <https://www.kaggle.com/t/00687ec7b2364d2682dc0fb25d6d2dc1>
- *Option 3: Facial expression classification from face images*
This is a multi-class classification problem, and the evaluation is based on Categorization Accuracy for ranking. Please use the following link to participate in the mini-competition for this task <https://www.kaggle.com/t/3fa7294607cd4eb9b9c9db21913a7f351>

Please note that the points you receive in this part will be based on your scores in the mini-competitions and the quality of your implementation. Bonus will be considered for participating in more than one competitions.

(Part 2 – 10 pts) Write a short report to describe the data used, methods, and results on your part 1. Please also mention if transfer learning is used or not. If so, please specify which pre-trained models are used and how you fine-tune the models.

What to Submit?

1. Kaggle: follow the submission file format and instructions to submit your predictions.
2. Our course blackboard:
 - Complete codes (Note: properly comment each code line).
 - Final submission files.
 - Mini-report for Part 1.
 - Please zip them into a file (yourname_assignment2.zip) and submit the zipped file in blackboard