

ML2 Assignment 1 Feedback

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| Group ID | |
| Mark | |

| | Criterion | Description | Mks |
|-------------------------|---|--|-----|
| Data pre-processing (6) | Dataset and data pre-processing is proper for the purpose of training CNNs. | Split the data into training set and validation set. Extract gender and age labels from the images. Rescale the pixel values to [0, 1]. Data augmentation is used. | /6 |
| Model A (44) | Model is reasonable. | A multi-output CNN model is defined. The size of feature maps being fed to the first fully connected layer must be less than 10 x 10. Some techniques are considered for preventing overfitting. | /12 |
| | Demonstrate effective training. | The four figures of learning curves are displayed. No significant underfitting or overfitting is observed. | /8 |
| | Explain the model, the training process, the results well. | What is your CNN architecture? How did you set the relevant hyper-parameters? Screen shot a part of the training output. Display the four figures of learning curves and give brief description for them. | /8 |
| | Age performance | Your model outputs MAE on the test set (2000 images) is: | /8 |
| | Gender performance | Your model outputs classification accuracy on the test set is: | /8 |
| Model B (44) | Model is reasonable. | A multi-output CNN model is defined based on one existing CNN model. The setting for freezing layers, fine-tuning layers and training layers is reasonable. Some techniques are considered for preventing overfitting. | /12 |
| | Demonstrate effective training. | The four figures of learning curves are displayed. No significant underfitting or overfitting is observed. | /8 |
| | Explain the model, the training process, the results well. | Which pre-trained CNN are you using? How did you transfer learn based on this pre-trained CNN? Screen shot a part of the training output. Display the four figures of learning curves and give brief description for them. | /8 |

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| | Age performance | Your model outputs MAE on the test set (2000 images) is: | /8 |
| | Gender performance | Your model outputs classification accuracy on the test set is: | /8 |
| Summary and Discussion (6) | Good summary and discussion. | Good summary and comparison of the two models and also have some discussion to demonstrate deep understanding of how to use deep learning models to solve real problems. | /6 |
| Total | | | /100 |

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| Comments |
| <u>Improvements are needed in:</u> |