AGE AND GENDER PREDICTION

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OBJECTIVE

To create a deep learning model that can predict human Age and Gender from their face image.

OVERVIEW

- Design a model to predict age and gender with Neural network, Convolutional Neural Network, Pretrainedmodel that use VGG-16 as a base
- Combine the age and gender part of the model into one.
- Evaluate the performance of the model to find the best model out of three.

PREDICTION RESULT

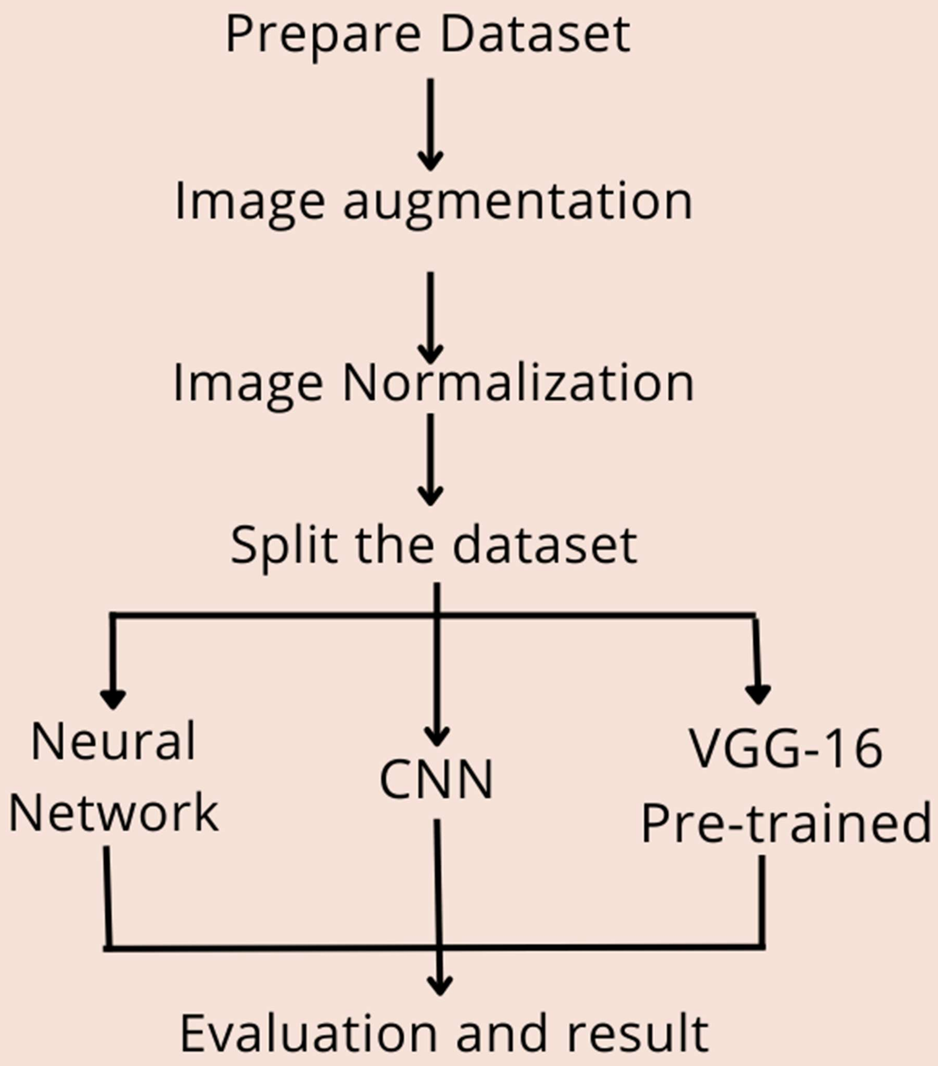
Actual age: 61
Predicted age: 56
Actual Gender: Male
Predict Gender: Male

Actual age: 25
Predicted age: 32
Actual Gender: Female
Predict Gender: Female

RELATED THEORIES

- Deep Learning
- Hyper parameter tuning
- Initialization Method
- Activation Function
- Neural Network Model
- Convolutional Neural Network Model
- VGG-16 Model
- Model Evaluation

PROCESS OF PROJECT



REFERENCES

- Age and Gender Prediction from Face Images Using Convolutional Neural Network
- Age Estimation Based on Convolutional Neural Network
- A cascaded convolutional neural network for age estimation of unconstrained faces
- Literature Review on Gender Prediction Model using CNN Algorithm

RESULT

Model	Train MAE	Test MAE	Train Accuracy	Test Accuracy
Neural network	10.5386	15.1492	0.8256	0.7709
CNN	18.4853	17.1355	0.8513	0.8468
Pretrained	7.4472	9.9541	0.8570	0.8494

CONCLUSION

From the result, CNN and VGG-16 fine-tuned have a decent result since the former is already a popular and well-known method while the former has the pre-trained based model for helping performing prediction. Neural networks can be a trustable model if we can manage the resource used.