King Fahd University of Petroleum & Minerals
College of Computer Sciences and Engineering
Information and Computer Science Department

ICS 411: Senior Project (Term 172)

AGE AND GENDER RECOGNITION USING DEEP LEARNING

Initial Plan Document

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FEBRUARY 8, 2018
DEEPVISION
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Introduction

Purpose of this document

This document first introduces the need of age and gender recognition system that automates the process of detecting the age and gender of a person using an image of their face. In addition, it provides an initial tentative plan for the project in the entire 15-week period including deliverables expected after every week.

Scope of the project

Project Overview

This project will result in a model capable of classifying age and gender of a person using deep learning algorithms. The images are acquired from a camera using OpenCV camera handling package in Python. The classification models will be trained using TensorFlow or Caffe Deep Learning libraries.

Problem statement

The area of face and age recognition receives a great interest in the last decades due to its importance in the cutting-edge web and mobile applications. Every day, social media applications stores dozens of personal photos and the need to analyze them is demanding to facilitate a better user experience [1]. The uses of developed tools in this area varies from personal security to personal identification and human computer interactions. The significant advances in this area produces models that are even able to outperform human abilities! [2]. Another great use of such applications is to aid computer to use proper linguistic attributes and wordings when interacting with humans. Many languages differentiate between men and women during communication and this is where this area provides a better solution [3].

Planned Schedule

Week	Tasks and events	Description	Deliverables	Date of Submission	Weight
2	Research, literature survey and getting familiar with necessary tools and libraries.	Efforts to understand the scope of the problem and environment that is intended to be used in the project.	None		
3	Data Collection and performing basic image processing techniques.		Initial Plan Document	8/2	5%
4	Requirement specification Incremental development detailed plan	Detailed plan of the incremental development iterations (involves feature implementation plan)	Requirements Document Feasibility study and Detailed Plan	15/2	15%
5,6,7,8	Analysis, tuning and testing of DNN model		Initial release Version 0.1	15/3	20%
9	Progress report	A written report about the achieved work	Progress report	22/3	10%
10,11	Deployment on Android		Release 0.2	5/4	10%
12,13	Finalization and Testing			19/4	
14-15			First version, Version 1.0	3/5	20%
14-15	Project Report Presentation			3/5	15%
14-15	Video about the projects (3-5 minutes)			3/5	5%

Team Contribution

ID	Name	Tasks
201351850	Mustafa Al-Turki	
201381710	Majed Alshaibani	Problem Statement, Review initial plan
201379790	Haitham Albetairi	

References

[1] Convolutional Neural Networks for Age and Gender Classification, Ari Ekmekji,
http://cs231n.stanford.edu/reports/2016/pdfs/003_Report.pdf

[2] DAGER: Deep Age, Gender and Emotion Recognition using Convolutional Neural Network,
arXiv:1702.04280

[3] Age and Gender Classification using Convolutional Neural Networks
http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.722.9654&rep=rep1&type=pdf