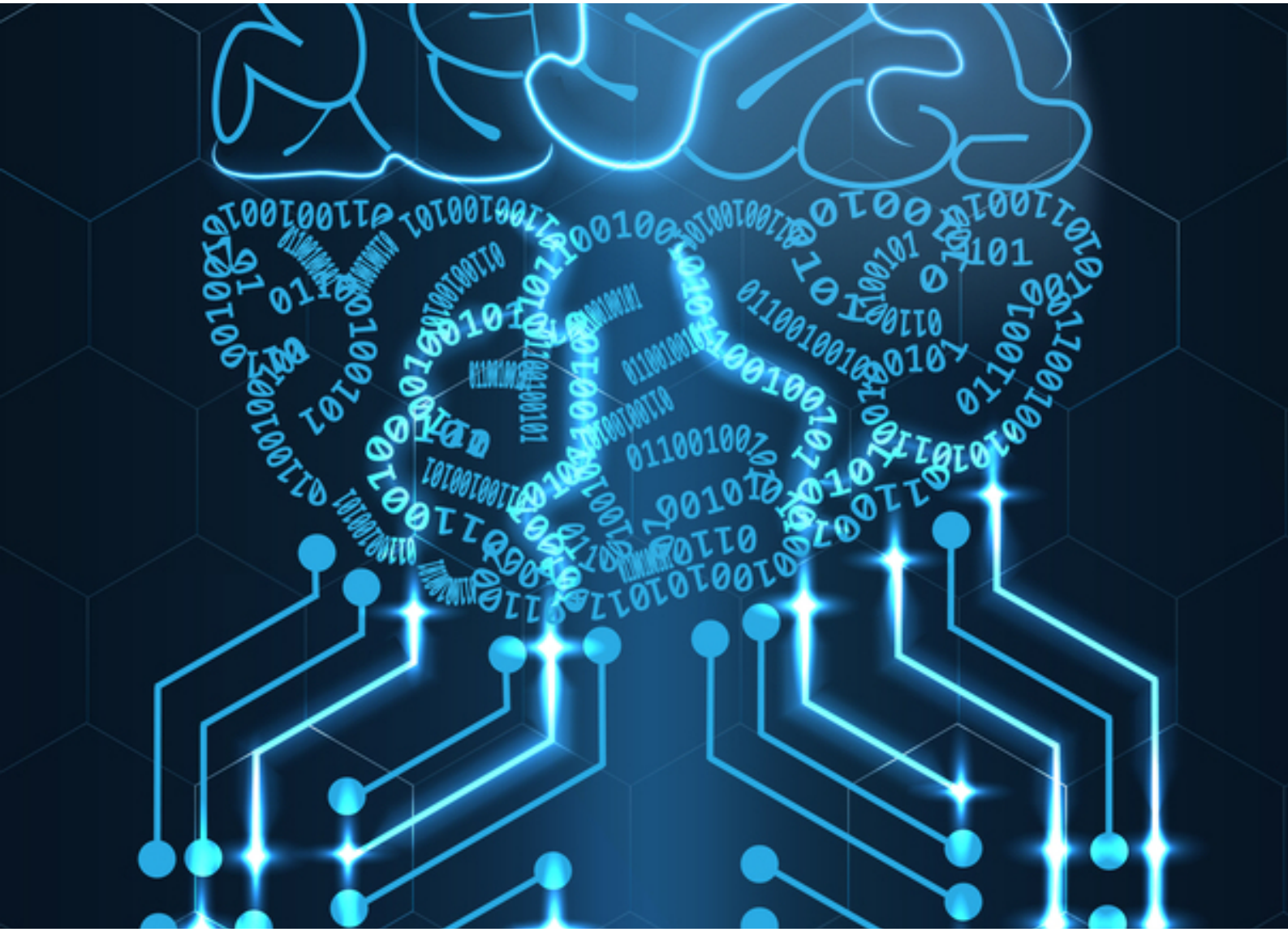
AGE AND GENDER RECOGNITION USING DEEP LEARNING

Initial Plan Document

Feb 10, 2018



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Introduction

Purpose of This Document

This document starts with an introduction about the age and gender recognition system. This system will automate the process of detecting a person's age and gender using an image of their face. In addition, it provides a tentative plan of the project during the 15-week period, including the deliverables expected every week.

Scope of the Project

Project Overview

This project aims to produce a model capable of classifying age and gender using deep learning algorithms. The images are acquired from a camera, and will be manipulated using OpenCV's camera handling package in Python. Afterwards, any classification models will be trained using either TensorFlow, or Caffe Deep Learning.

Problem Statement

Interest in facial and age recognition grew rapidly in the last decades due to its importance in cutting-edge web and mobile applications. Every day, dozens of personal photos are stored on social media applications, and the need to analyze them will facilitate a better user experience [1]. Uses of such a technology varies from security to identification, and human-machine interactions. The significant advances in this area can produce models that are able to outperform even human abilities [2]. Since many languages have grammatical genders, these models might be capable of using proper linguistic attributes and words when interacting with humans. Such is an example of an adequate solution for a problem in this area [3].

Planned Schedule

Week	Tasks and events	Description	Deliverables	Date of Submission	Weight
2	Research literature Get familiar with necessary tools and libraries	Understand the scope of the problem, and the environment that will be used in the project.	None		
3	Data Collection Performing basic image processing techniques.		Initial Plan Document	8/2	5%
4	Requirement specification Incremental development plan	Detailed incremental development iterations plan (involves feature implementation plan)	Requirements Document Feasibility Study Detailed Plan	15/2	15%
5-8	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%
	Project Report Presentation			3/5	15%
	Project Videos (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	Cover Page, Proofreading & Revision

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