Proposal

Gender and Age Detection with Data Science

**Student’s name: Syed Ibrahim Afroz**

**Student ID: 20075286**

**Student Name: Wahed Mohammed Noman Abdul**

**Student ID: 20065822**

Table of Contents

[Chapter 1: Introduction 3](#_Toc138879679)

[Chapter 2: Background 4](#_Toc138879680)

[Chapter 3: Research Question 5](#_Toc138879681)

[References 6](#_Toc138879682)

# Chapter 1: Introduction

The research area of this proposal report as this report is based on the selected topic of gender and age detection with data science. Under this, the dataset would be studied using the deep learning and one would be building the gender and age detector that could approximately guess the age and gender of a person into the picture while using the deep learning.

The research area of age and gender detection while using the deep learning appears to be the active area of the researchers and study that has put a lot of effort into contributing towards the quality in analyzing the datasets. Also, the research area needs to use deep learning algorithms and methodologies that could be used and that can properly fit the age detection and gender classification.

tried to duplicate the technique using common tools. The usefulness of the method depends on a variety of variables, although the main objective of the investigation is to keep the algorithms as straightforward as quickly as feasible while keeping the greatest degree of reliability. The usefulness of the system continues to be worked on. Later enhancements will get rid of features from non-human things, expand the databases for individuals from other racial and ethnic backgrounds, as well as give machines more precise workflow management. This working example can more accurately determine a person's age and gender by analyzing a single photograph of their face using deep data mining and CNN.

# Chapter 2: Background

Background: The goal of the gender and age detection utilizing deep learning research topic is to precisely determine a person's gender and age with an individual facial image. It has been extensively studied how to determine the age and gender from photographs. Throughout the years, various approaches are being used to solve this problem. Predictive age and gender identification through face pictures have been receiving a lot of curiosity given to its broad range of potential uses in several facial analyses. With the use of the technologies listed above, experts can identify the gender and age of an individual from only one video or photograph. The use of the convolutional neural network (CNN) with deep learning, approaches, and strategies that the may be applied, and the way everything works collectively for gender categorization and age detection, are all going to be discussed in this study article.

Automatic face recognition and predicted of gender and age utilizing algorithms that learn from data have drawn a lot of attention over the past ten years and have grown in popularity as a result of the vast availability of facial photos on the globally vast Web, particularly on social media.

History

The use of the deep learning into this proposal as it seems to be the Deep learning-based object recognition offers a quick and precise way to forecast where an object will appear in an image. The object's detection autonomously learns visual characteristics needed for identification tasks using deep learning, which is a potent machine learning methodology. Limited information sets can be used for education by using augmented data. One can employ fresh, distinct, and distinctive photos produced by minor adjustments like interpreting, planting, or image transformation in order to develop a powerful detection. Datastores are an effective tool for reading and enhancing data sets.

# Chapter 3: Research Question

* For analysing the user could use the webcam or some other digital device for detecting the gender and age.
* How to employ the additional trained data and the major difficult complex system for making the detection performance more slightly rising.
* Can the outcome gathered from the detection of gender and age while using the data science could be exactly the suitable for performing the future outcomes?
* For the gender detection and age prediction feature extraction and image processing are used majorly.
* How the data science algorithm needs the large amount of data, and it will follow the attributes for recognizing the object of the image.
* How the effective object detection method can be used for the face object detection while using the Haar feature-based cascade classifiers.

# References

Kumar, S., Gornale, S.S., Siddalingappa, R. and Mane, A., 2022. Gender Classification Based on Online Signature Features using Machine Learning Techniques. *International Journal of Intelligent Systems and Applications in Engineering*, *10*(2), pp.260-268.

Chang, V., Bhavani, V.R., Xu, A.Q. and Hossain, M.A., 2022. An artificial intelligence model for heart disease detection using machine learning algorithms. *Healthcare Analytics*, *2*, p.100016.

Kanna, S., 2023. GENDER–BASED AGE RECOGNITION USING IMAGE PROCESSING WITH RCNN. *Ann. For. Res*, *66*(1), pp.196-203.