# 1. Introduction

One of the most common tasks which every person faces each day is to choose what to wear. This is an important decision as what you choose to wear has an influence on both how you feel about yourself and how other see you. [1] This can lead a lot of time being spent choosing what kind of outfits to wear, often leading to indecision, and wasting time. There are many factors to consider in an outfit such as the synergy on item of clothing has another, how the colours work with each other and taking into consideration the practical problems of would an outfit be too got or too cold. Some applications have tried to solve this problem by creating wardrobe planner where the user can plan an outfit day to day. With the recent developments in the neural network and recommender systems, a lot of these decision-based problems like this have been solved through using these systems. More and more companies use this technology to help recommend more products or service with a higher success rate than before. This is shown in how shopping sites such as amazon who used these systems which lead to a 29% annual sales increase which these systems greatly contributed to [2].

The project aims to create an Android application which can accurately recommend outfits based on a user’s tastes. It aims to understand how modern neural networks are made and how they can be adapted for the purpose of learning tastes of clothes so that it can make better predictions. It wants to use neural network techniques to discover the trends in a user’s decisions to wear certain clothes and uncover the trends to their outfits.

The motivation was to develop a smart solution to the problem of what to wear and the potential of neural networks made it a good choice to create an innovative solution. This is because of their capabilities to be able to distinguish between data made it an ideal feature to implement to innovate the decision making process. The goal of this is to be able to create an increased level of user satisfaction with the application from this feature.

This report will discuss the steps which were taken to develop this application. It will firstly discuss the results of the research into the technologies and system which are to be implemented in the app how this understands with help to develop the app. Then the methodology of how the techniques research would be implemented and translated to the app with designs and idea on how it would be created. From this the report will show how the designs were implemented into an application which would then be tested to see if the application can fulfil the goal of learning the tastes but also how well it can learn. Finally, it will contain a summary of the output of the development process and how this may be expanded upon in future works.