

Superior University Lahore

Software Engineering Department

Final Project Report

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Machine Learning: Teachable Machine. with google.com

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**Abstract**

**Machine learning** (**ML**) is the study of computer algorithms that improve automatically through experience. In this report we are using a tool made by google to make data models train the computer and out all the results. Teachable Machine is a web-based tool that makes creating machine learning models fast, easy, and accessible to everyone. We have used this tool and made image models of simple daily useable product and trained the machine to differentiate between these products.

# **INTRODUCTION:**

In this report we have used a tool created by google company called Teachable Machine. Teachable Machine is a web-based tool that makes creating machine learning models fast, easy, and accessible to everyone. Educators, artists, students, innovators, makers of all kinds – really, anyone who has an idea they want to explore. No prerequisite machine learning knowledge required. You train a computer to recognize your images, sounds, and poses without writing any machine learning code. Then, use your model in your own projects, sites, apps, and more. Teachable Machine uses Tensorflow.js, a library for machine learning in Javascript, to train and run the models you make in your web browser. Look at the Teachable Machine library built on top of Tensorflow.js on GitHub. That’s a more complex question that we hope to do a more in-depth writeup on in the future. But to give you a sense – these models use a technique called transfer learning. There’s a pretrained neural network, and when you create your own classes, you can sort of picture that your classes are becoming the last layer or step of the neural net. Specifically, both the image and pose models are learning off of pretrained mobile net models, and the sound model is built on Speech Commands.

# METHADOLOGY

First you need to visit <https://teachablemachine.withgoogle.com/> . This site is the place from where we are going to start. This site provides us with all the necessary features to begin our project. The steps are mentioned below

* The first step is to select which type of model are you going to use for your new project. There are three type of models.
* We will Select the Image model which works by taking the images of the objects.
* After selecting it will take us to the next page on which there steps shows to be performed by us.
* First take pictures of the object as a data set for your first class.
* Secondly take the picture of the other object for the other class, Similarly you can take multiple classes and gather data.
* After getting data we will train the models.
* At the end the result will be a machine trained to be able to differentiate between different objects.
* At the end we could export our project and use it.

# CONCULSION:

The Teachable Machine is a great tool for machine learning. With it we can teach the machine through different type of models like Image Model, Audio Model and Pose Project we could train the machine to differ between the various classes and at the end represent them in a good visual manner.

# REFERNCES:

Teachable Machine :

<https://teachablemachine.withgoogle.com/>

Git Hub:

<https://github.com/shahzaibnaseer/Teachablemachine>