**TEXT, FACE, AND OBJECT DETECTION USING MACHINE LEARNING**

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This Report Presented in Partial Fulfillment of the Requirements for the Degree of Bachelor of Science in Computer Science and Engineering

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**OCTOBER 2018**

**APPROVAL**

This Project titled **“TEXT, FACE AND OBJECT DETECTION USING MACHINE LEARNING**”, submitted by Mohammad Masum Billah, Rafikul Islam Khanand Shuvashis Sarkerto the Department of Computer Science and Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering (BSc) and approved as to its style and contents.

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**DECLARATION**

We hereby declare that, this project has been done by us under the supervision of **Ms. Most. HASNA HENA,** Senior Lecturer**, Department of CSE** Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

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**ACKNOWLEDGEMENT**

First we express our heartiest thanks and gratefulness to almighty God for His divine blessing makes us possible to complete the final year project/internship successfully.

We really grateful and wish our profound our indebtedness to **Ms. Most. HASNA HENA** Senior Lecturer Department of CSE Daffodil International University, Dhaka. Deep Knowledge & keen interest of our supervisor to carry out this project. Her endless patience, scholarly guidance, continual encouragement, constant and energetic supervision, constructive criticism, valuable advice, reading many inferior draft and correcting them at all stage have made it possible to complete this project

We would like to express our heartiest gratitude to Ms. Most. Hasna Hena, Senior Lecturer, Syed Akhter Hossain,Head**,** Department of CSE, for his kind help to finish our project and also to other faculty member and the staff of CSE department of Daffodil International University.

We would like to thank our entire course mate in Daffodil International University, who took part in this discuss while completing the course work.

Finally, we must acknowledge with due respect the constant support and patients of our parents.

**ABSTRACT**

This report is a intend to guideline for the user to recognize text & translate the text into any language as well as facial recognition, detecting products by using smartphone camera view finder & more from an image and also predict information of an user like age, happiness percentage & gender by detecting facial landmarks. The purpose of this project is to develop a user-friendly android mobile application that will help to understand and interact with what’s in our camera’s viewfinder. Because the smartphone camera won’t just see what we see, but will also understand what we see to help us take action. So, with that thought why don’t make a mobile application that can perform smart action with the help of our smartphone camera. Well, to achieve this purpose we have to use toolkit and languages like Android Studio, Machine learning kit, java etc.

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**CHAPTER 1**

**INTRODUCTION**

* 1. **Introduction**

Smartphones are more advanced than ever. They’re packed with tons of features, like front- and rear-facing cameras, heart rate monitors, fingerprint screen lock, and access to apps galore.

There’s no denying it, from the moment we get up to the moment we go to bed, we’re all glued to our smartphones. A new work email. A new Facebook notification. The weather app tells us a storm is on the way. There’s always another reason to pick up our phones because they do so much.

* 1. **Motivation**

Smartphone is the most widely used mobile technology right now. We can’t think live without a smartphone. It became a part of our day to day life. We do a lot of day to day activities with our smartphone. We all have one in our pocket and that has cameras. Typically, with camera all we do is take photos, videos or make video calls etc. but a smartphones camera can do a lot more than that. The smartphone camera won’t just see what we see, but will also understand what we see to help us take action. With that thought why don’t make a mobile application that can perform smart action with the help of our smartphone camera.

* 1. **Objectives**

The objective of our project is to develop a user-friendly android mobile application that will help to understand and interact with what’s in our camera’s viewfinder such as.

### Text Recognition

* Recognize text from images.
* Copy text & Translate text into any language.

### Image Labeling

* Recognize entities in an image.
* Identify objects, product & more.

### Face Detection

* Detect faces in an image and identify key facial features.
* Predict gender & age.

### Barcode Scanning

* Read data encoded using most standard barcode formats.
* Respond intelligently when a user scans a barcode.
  1. **Expected Outcome**

To design and develop a smart user-friendly application that will help a user to recognize text from an image, copy that text & translate the text into any language. Identifying objects from an image. Predicting age and gender by detecting face. Getting encoded data from barcodes by scanning using most standard barcode formats.

* 1. **Report Layout**

**Chapter 1: Introduction**

In this chapter we’ve discussed about the motivation of ours for doing this project and also objectives and expected outcome of the project.

**Chapter 2: Background**

**Chapter 3: Requirements Specification**

**Chapter 4: Design Specification**

**Chapter 5: Specification and Testing**

**Chapter 6: Conclusion and Future Scope**

**CHAPTER 2**

**BACKGROUND**

**2.1 Introduction**

**2.2 Related Work**

**2.3 Comparative Studies**

**2.4 Scope of Problems**