

# ATTESTA, an Image Processing Application Android Mobile Application

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## ABSTRACT

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Today's most commercial workplaces follow manual verification of any Id proof documents which are attached for attestation purposes. Handwritten text recognition is possible with the help of OCR technology. The main goal is to build a system that reduces the manual data scrapping job of an organization that mimics the functionality of the Google Lens System. Our system allows people in the commercial departmental territory to assist in their task of collection & verification of proof documents using computer vision technology. With Optical Character Recognition and neural network technology, businesses can automate the process. Steps to follow: [scan-attend-read-validate]

Extracting text from custom form bitmap and original Identification card bitmap documents, notify if there is an Anomaly.

Our proposed model is potentially suitable to be deployed in commercial large-scale businesses to classify the documents.

**Keywords-** Computer vision, Neural Network, Optical Character Recognition, Attestation, Automation.

## I. INTRODUCTION

The purpose of this project was to automate the manual data entry process, where there are tons of documents to be verified and preserved. Automating the existing lengthy process of verification of documents by reducing human resources as well as reducing the cost required.

Text Recognition can automate tedious data entry jobs such as collecting proof documents for instance credit cards, receipts, and business cards at most commercial departmental territories. Hence System assists enterprises with the help of machines and uses

supervised and deep learning technology to make it feasible.

Allowing computing power to extract text from an image to automate data verification and data entry task. We have built a system that extracts text from custom form images & original identification documents and notifies if there is an Anomaly.

## II. METHODS AND MATERIAL

Allowing computing power to extract text from images to automate data verification and data entry task is the main goal. To do so we have designed

a class named Validation using Object-Oriented Methodology which includes four characteristics and two concrete behaviour which returns String. The main business logic stands right there in the Validation class where text is extracted from the bitmap of an image and passed as an argument to the recognizer instance.

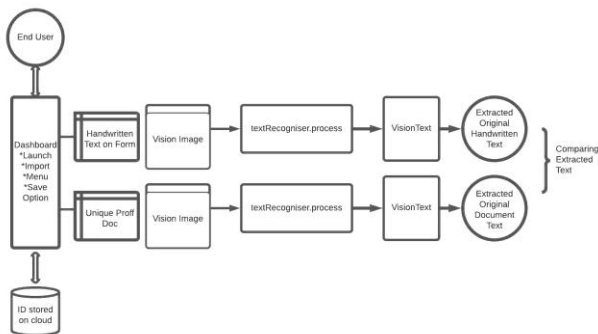
Machine Learning from Firebase provides us with several tools and services for bringing ML features.

The problem statement which focuses on the process which helps enterprises automate their task and the system will show the change between the traditional method compared to the proposal.

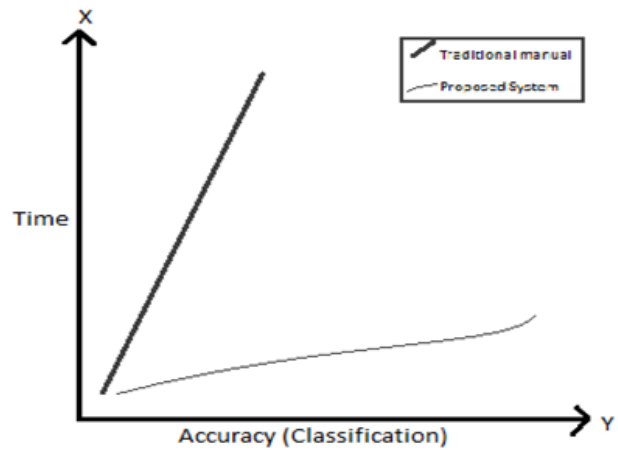
**B. The graph will show the difference:**

The result is concluded that using a traditional system, the time is high with low accuracy. The proposed system not only decreases the time but also increases the accuracy.

**Figure 1: Attestation Flow Diagram.**



**Figure 1: Comparison Graph**



We need a deep understanding of neural networks and model optimization to extract text from an input image. ML Text Recognizer model provided by firebase ML API helps us to implement it. By OCR (Optical Character Recognition) we can connect the virtual world and the real world. In the 1920s first OCR was introduced with the objective to recognize text from the image even though it is very challenging due to many factors.

The time required for manual verification is far greater than automating the task using machines.

**III. RESULT AND DISCUSSION**

**A. Background Study**

There are many image processing tools available such as Google Translate, Google Lens & Adobe Scan. But problem is that they are generic in nature. These are personal tools provided by MNC to ease the daily task of an individual. There is no specific system for Insurance, banks, and another commercial sector to scrap data from doc using automation.

**IV. IMPLEMENTATION**

Google Vision Text Recognizer internally implements the CNN algorithm to classify different word elements. The model also keeps boosting itself with the help of the keyboard hooking technique. To scale down a particular image to grayscale filters are applied in each layer and input data is normalized before passing it to the trained model. The filter is a vertical edge detector to downscale the input image. Hence all pixels are classified as binary and represent values 0 or 255. Each layer will have a unique filter associated with it. To conclude N x N

size image is scaled down to N-HP X N-NP for feature reduction & optimization purposes.

The System initiates with a pretty splash screen to make the user familiar with the domain on which this application relies. The main business login stands right there in the Validation class where text is extracted from the bitmap of an image and passed as an argument to the recognizer instance.

**Attestation Activity:** This activity emulates the exact front-end panel of the end customer of any corporate Attestation system. An end-user can upload Government Identification cropped image as an input.

**Lens Activity:** This module tries to implement the Google lens application and real-time language translation capabilities.

**Persistence Activity:** It tries to demonstrate the implementation side of an enterprise where finance-related activities are carried out, with the help of a single click all the buffered user records will be verified in the loop & each entry will be labeled with a tag Document verified and Attested or Content not matched. The not matched record will have to resubmit their application again.

## V. CONCLUSION

We have introduced a system accessed through an android application that is easily available and gives the user the perfect error-free automation process which helps enterprise assist their manual task through computing power. The existing document verification process is redundant, passive, and tedious in nature which requires huge human resources. With the usage of our application users can be assured of the accuracy of the system validating Identification proof documents within a few seconds.

Persistence activity makes it possible for the higher authority of the enterprise to seamlessly validate tons of customer records in a single click. All backlogbuffered records received from remote customers in finance departments are collected and can be verified without the direct participation of

staff. Our system automates the task of collection & verification of ID proof documents using computer vision technology without a huge workforce required. We have truly changed the way one approaches document verification tasks. This will further contribute to the rapidly growing computer science field where computing has reached a certain peak. We believe our system will help create innovation.

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