Auto KYC and digital Onboarding system using Deep Learning

Replacing manual verification and onboarding processes with AI-driven technology

IDEA BRIEF:

- To create a Mobile Application for automatic KYC verification process and digital onboarding online using Deep Learning and Image processing techniques.
- This app will reduce the time consumed while verifying customers in banks or onboarding new employees from a couple of hours to merely a few minutes.

- In today's technology-driven world, we have been using AI and ML in every domain from shopping to trying on glasses online.
- However, some simple yet really important areas where AI can be used, go unnoticed.
- One such interesting use case is the classification of Identity cards for automated onboarding of employees and for payment wallets and online stores.
- Given an image of an identity document the algorithm has to classify it to one of the following classes Aadhaar, PAN, Driving License, Passport, Voter Id.
- The detection and recognition phase is followed by robust heuristics combined with OCR to extract relevant fields like name, address and identification number (UIDAI number).

TECHNOLOGIES USED

- Deep Learning (TensorFlow framework)
- Image Processing (OpenCV)
- Android Development

INTENDED APPROACH

The working of the proposed system is described in the flowchart as shown below:
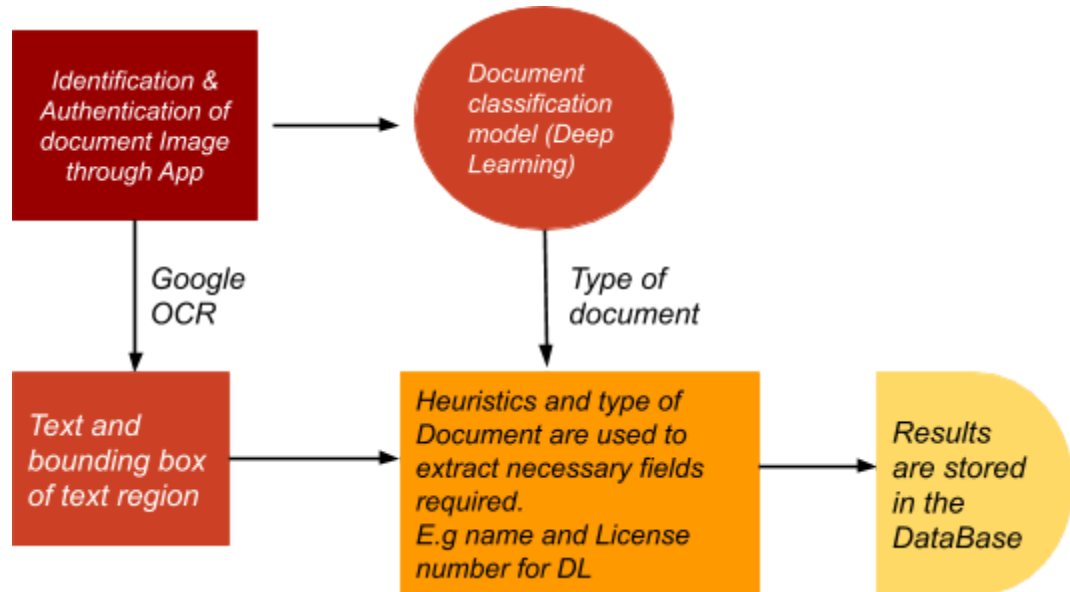
In a nutshell we'll use object detection + classification for classifying the document type. Followed by this OCR output and type of identity document will be passed through a set of heuristics to find the attributes present in the document. The extracted attributes will be stored in a database.

A typical input and Output of the android application where a PAN CARD is given as input:

The world is not a cozy laboratory, we know that!

- Our projected target is to create an architecture that could be more than 80% accurate and yet be fast enough to make an impact.
- This isn't easy when we know our input is coming from the rural end of India as well as from cities and we won't have high end GPUs to process on.

IDEA IMPACT IN MARKET

1. Intelligent and interactive onboarding systems to make user journeys simple and hassle free.
2. AI and ML based core regulatory engine helping businesses scale faster, reduce cost and cut turnaround time.
3. Comprehensive modules and white labelled solutions to enable faster transformation and easy integration.
4. Deploying such a system for onboarding in firms, managing new account openings, loan verifications or motor claim verification, there will be considerable reduction in the amount of time required to manually onboard and the boost in productivity is 3X

IMPLEMENTATION ROLES WITHIN THE TEAM

1. *Anshu Khare*: Front End for Application (Android App)
2. *Laisha Wadhwa*: Deep Learning (Model design and training + inference)
3. *Dhaarna Sethi*: Image Processing (Preprocessing input + heuristic designing)
4. *Rachna Shriwas*: Backend (Consuming model output and sending to database)