Bank of Baroda Hackathon-2022

TEAM NAME - V CAN

TEAM BIO - WELL, WE CAN!!

DATE - 18/09/22

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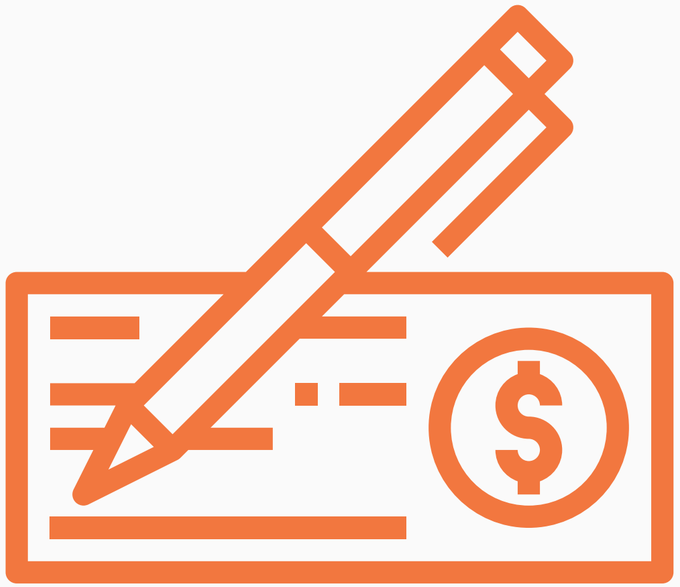


Problem Statement:

Automated Cheque Processing

Why Automate??

Banks get 3-5 Lakhs
Cheques for clearence/day

If all cheques
validated manually

Time Consuming

Error Prone

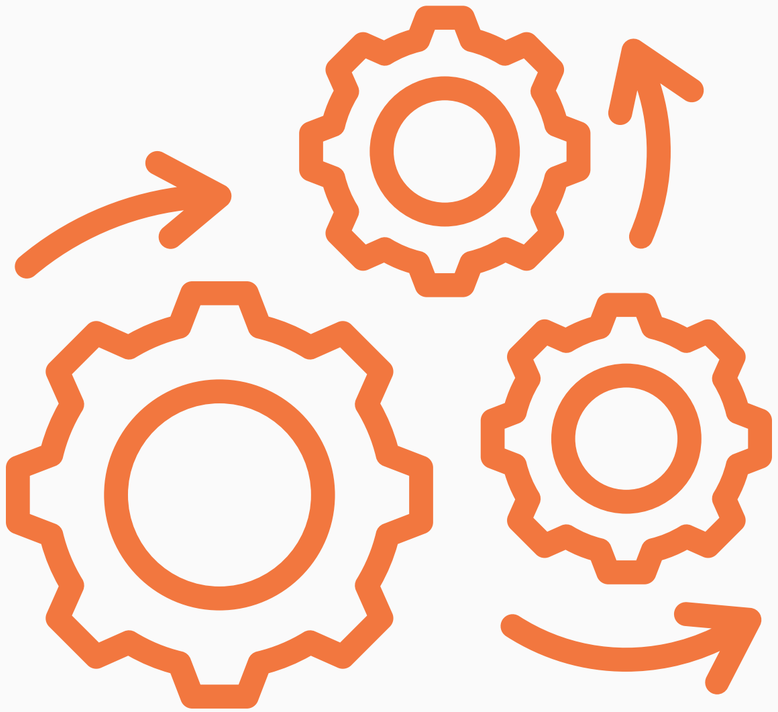
Chances of
Collusion

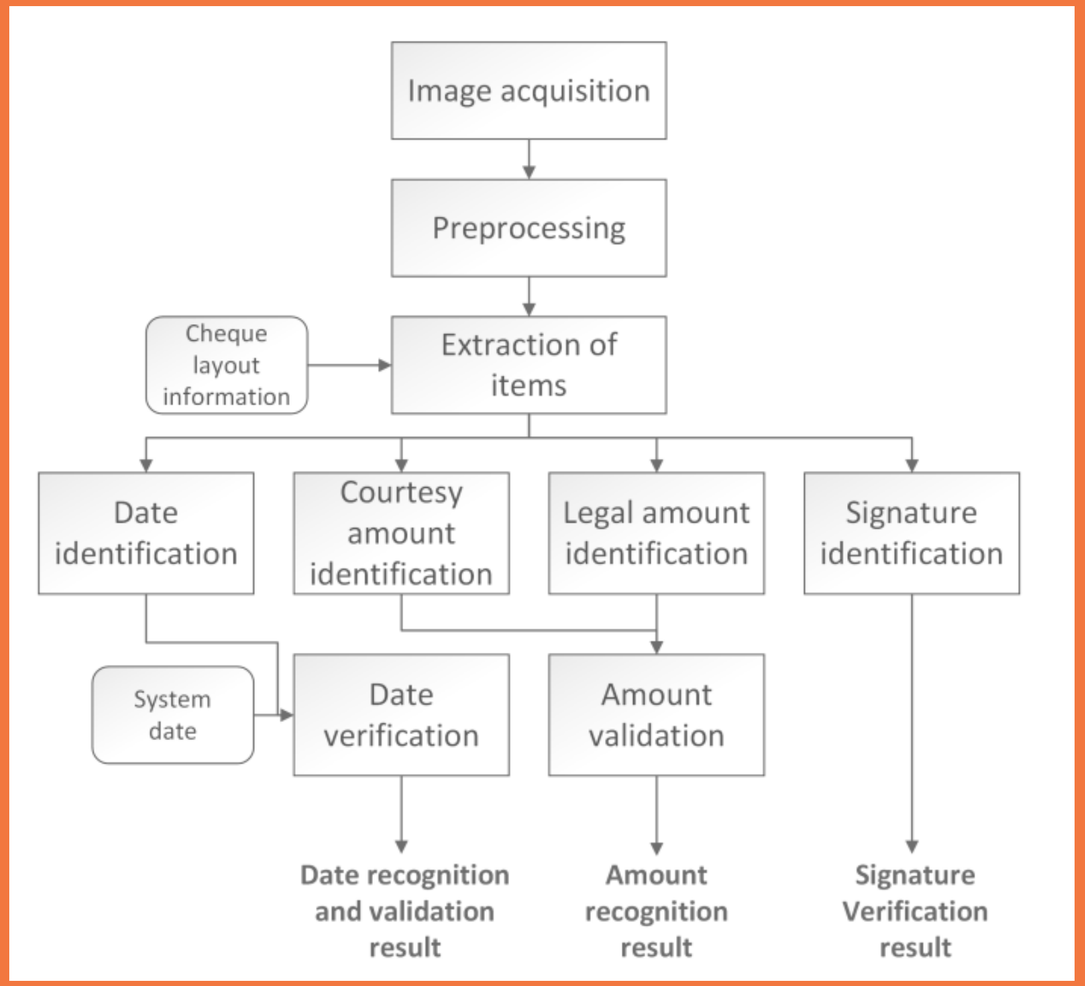
HR cost increases

Proposed Work

A mechanism that uses deep learning methods and image processing techniques to make the bank cheque verification process automated, thereby making it fast and reliable.

Flow Diagram of Proposed Method





Conditions to Authenticate Cheques

Verify genuineness of IFSC

Amount in words should be same as amount in figures

Verify cheque number by checking databse for the leaflets assigned to account holder

Signature in cheque should match with databse

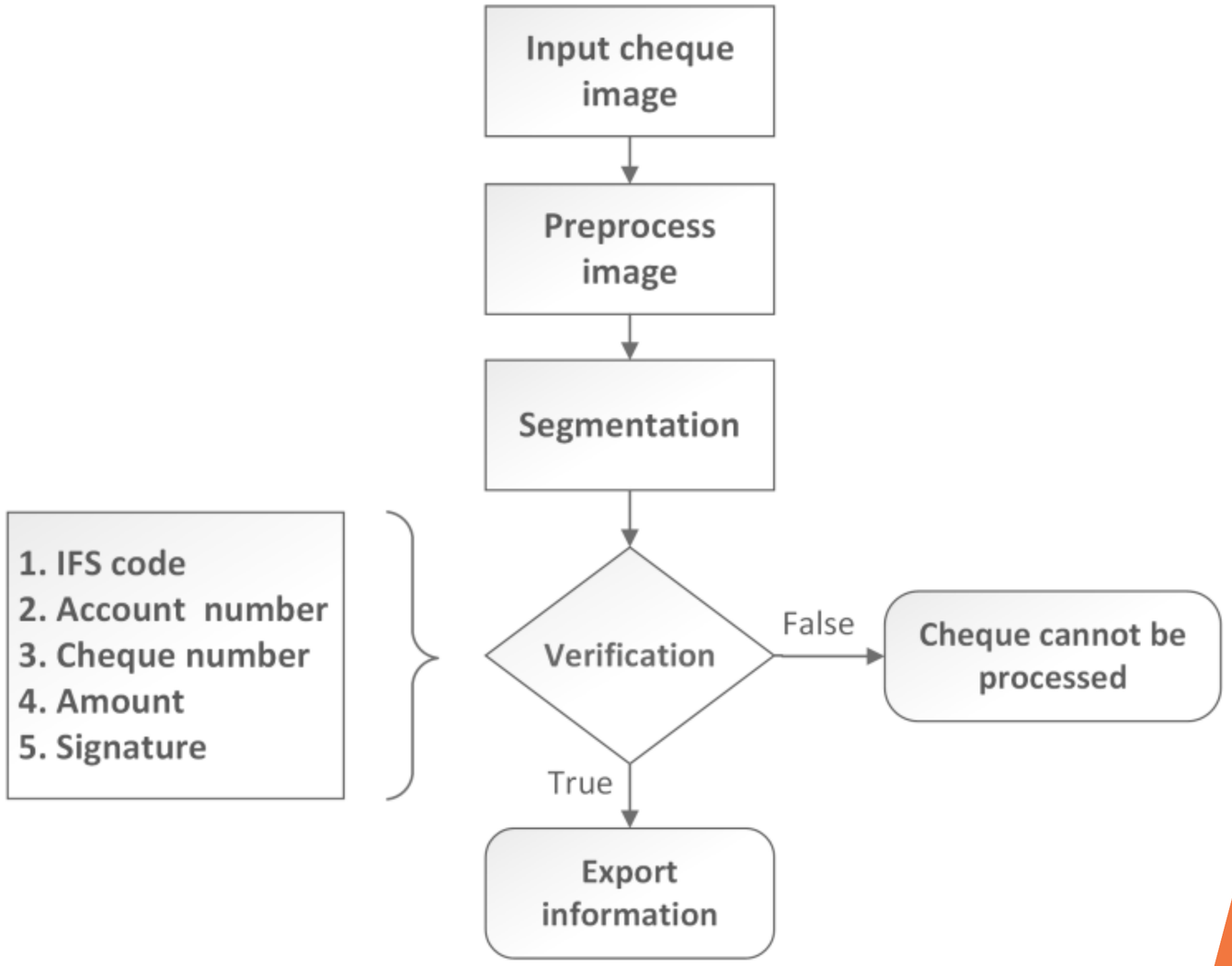
Cheque must be within 90 days of presenting (current) date.

Check if requested amount is present in the bank account

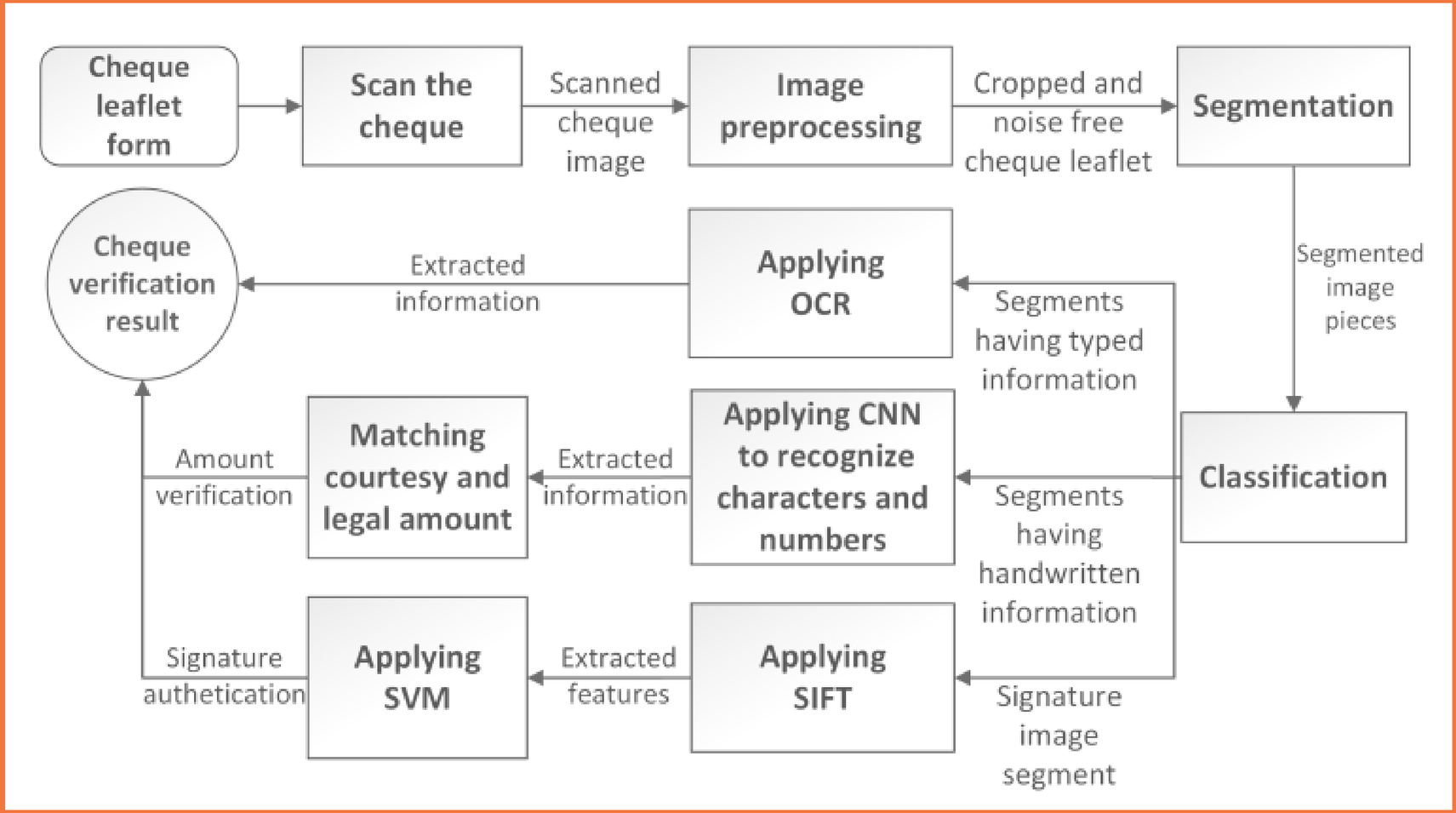
Authentication Steps

- Captured the following key components of a scanned bank cheque image using image segmentation: Date, Account Number, Cheque Number, Signature of account holder, Courtesy amount detail, legal amount detail, associated bank information (IFS Code)
- Validated bank branch information, genuineness of the cheque and customer account number by applying OCR method on IFS segment, cheque number segment and account number segment respectively.
- Obtained the pattern of signature and match it with the specimen signatures of account holder using SIFT and SVM methods.
- Recognized the characters stated in the legal amount segment of the cheque using CNN method and convert it into the place value system.
- Recognized the digits stated in the courtesy amount segment of the cheque using CNN and verify it with the extracted and converted legal amount information using the proposed algorithm.

Flow Chart for Cheque Authentication



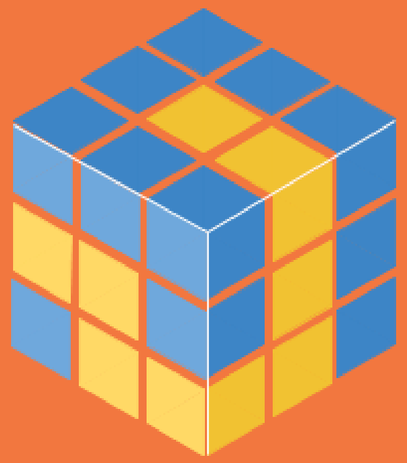
Block Diagram of Cheque Authentication Process



Technologies Used

TensorFlow

scikit learn



NumPy


Thank
You