User Setup –

System Setup –

Assuming Visual Studio Code, python and pip is already installed on the user's system.

If not please follow the below steps –

1. Install VS Code from here.
2. Install Python from here.
3. Install pip from here.

   (Make sure to add pip to the PATH environment variable to access it from any directory as below)

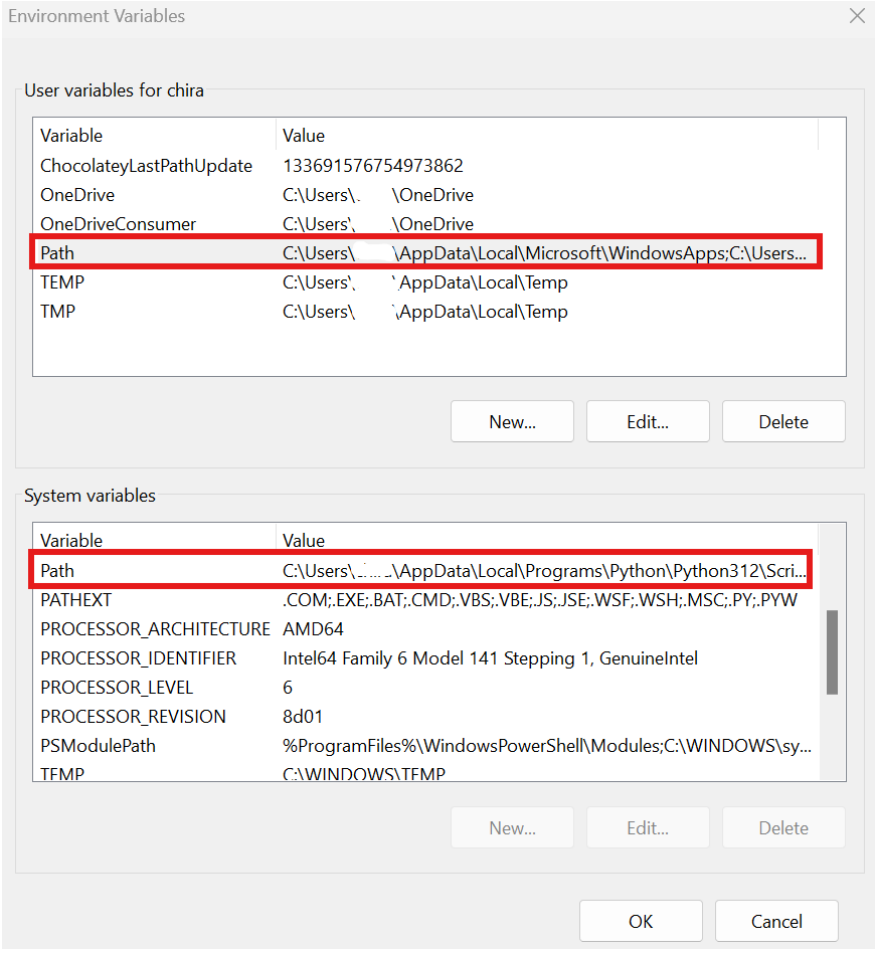

Figure 1 – PATH variables

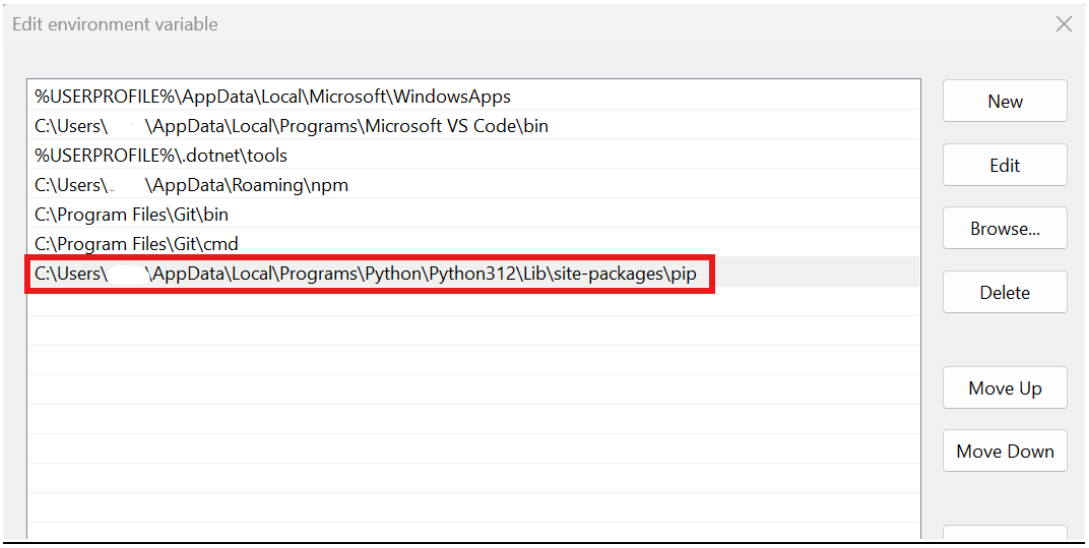

Figure 2 – pip in PATH variable

App Setup –

1. Download 'Flask App.zip' from here
2. Navigate to the downloaded folder from the terminal in Visual Studio Code as below

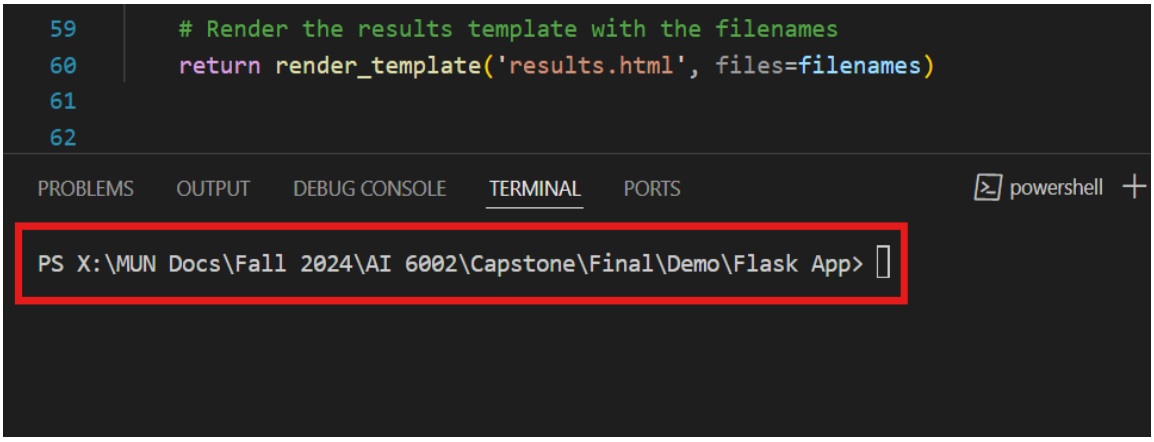

Figure 3 – Flask App folder through terminal

Easiest way to do that is to extract the Flask App.zip and then open that extracted folder from VS Code Explorer as below –

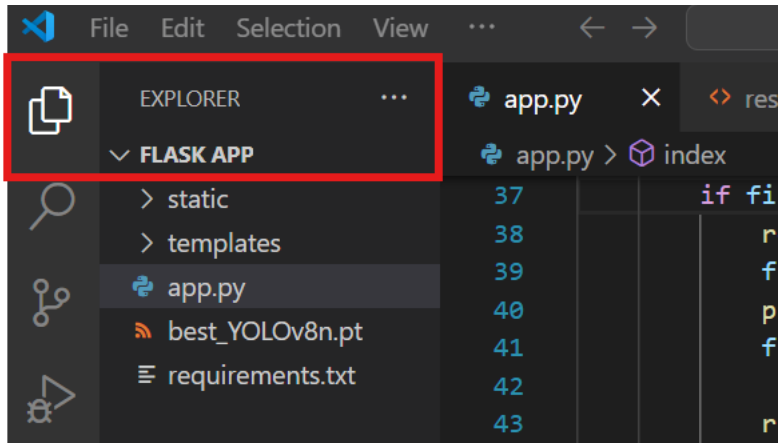

Figure 4 – File Explorer for Flask App extracted folder

3. Install all the libraries as present in the requirements.txt file by running the following command in the terminal –

pip install -r requirements.txt

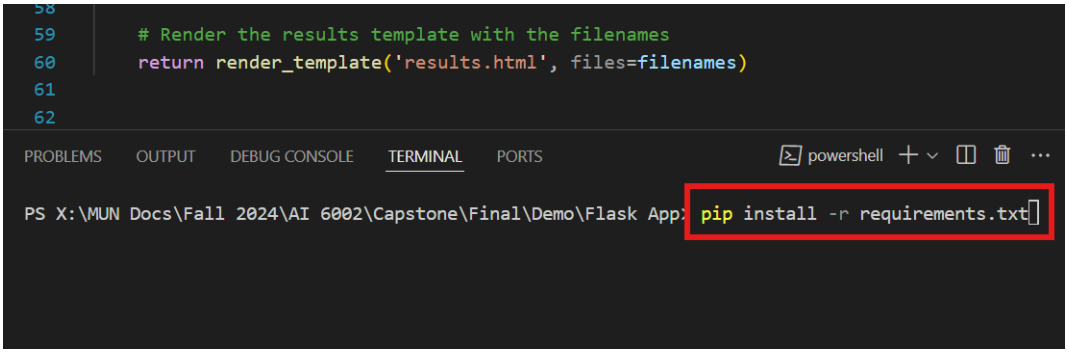

Figure 5 – Installing all the requirement for the webapp

4. Once the libraries are all installed successfully, type in the following command in the terminal to check if all the libraries are listed properly –

pip list

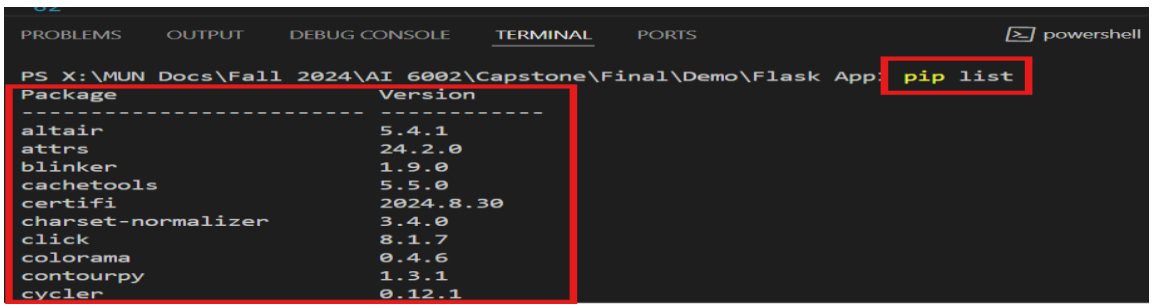

Figure 6 – Verifying library installations

5. Once all packages are successfully listed, you can run the webapp using the following command –

python app.py

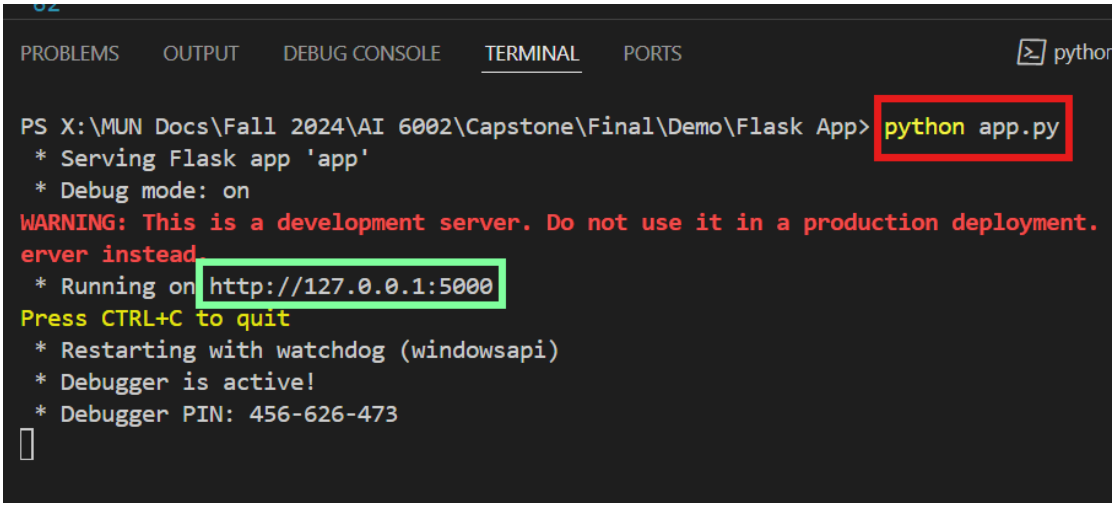

Figure 7 – Running the webapp

Once executed an URL will come up (shown in green box). Upon clicking the URL it will open the Webapp on a new browser tab.

6. Navigate to the browser and use the app for detecting cheque fields!

Usage –

WebApp –

1. Once the webapp is running the page displayed on the browser will be as below –

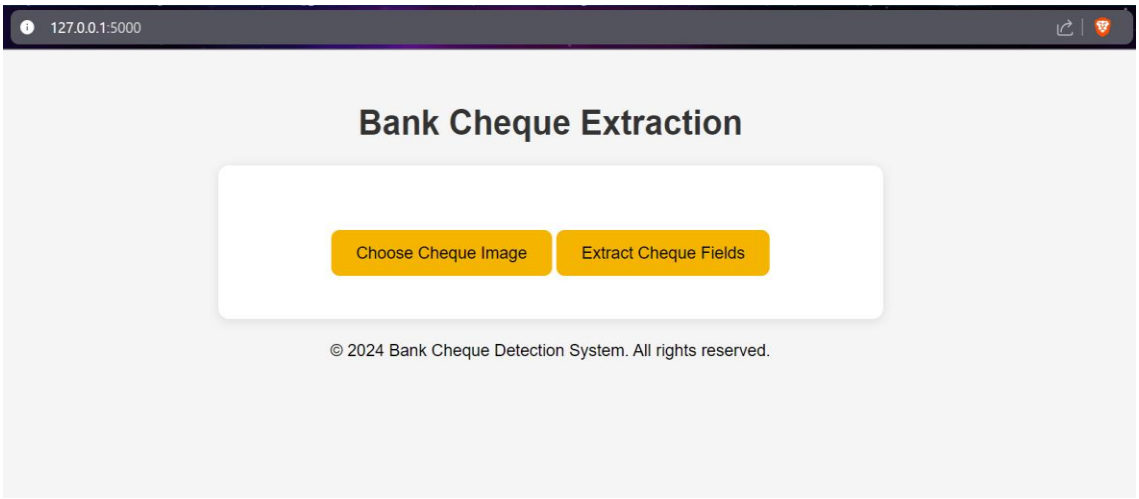

Figure 8 – Initial landing page of the webapp

2. Here there are two options – to ‘Choose a Cheque Image’ from the local system or to ‘Extract the Cheque Fields’. Since initially there is no Cheque Image uploaded so clicking on ‘Extract Cheque Fields’ button will not do anything. On clicking the ‘Choose Cheque Image’ button the option comes up to upload a file as below –

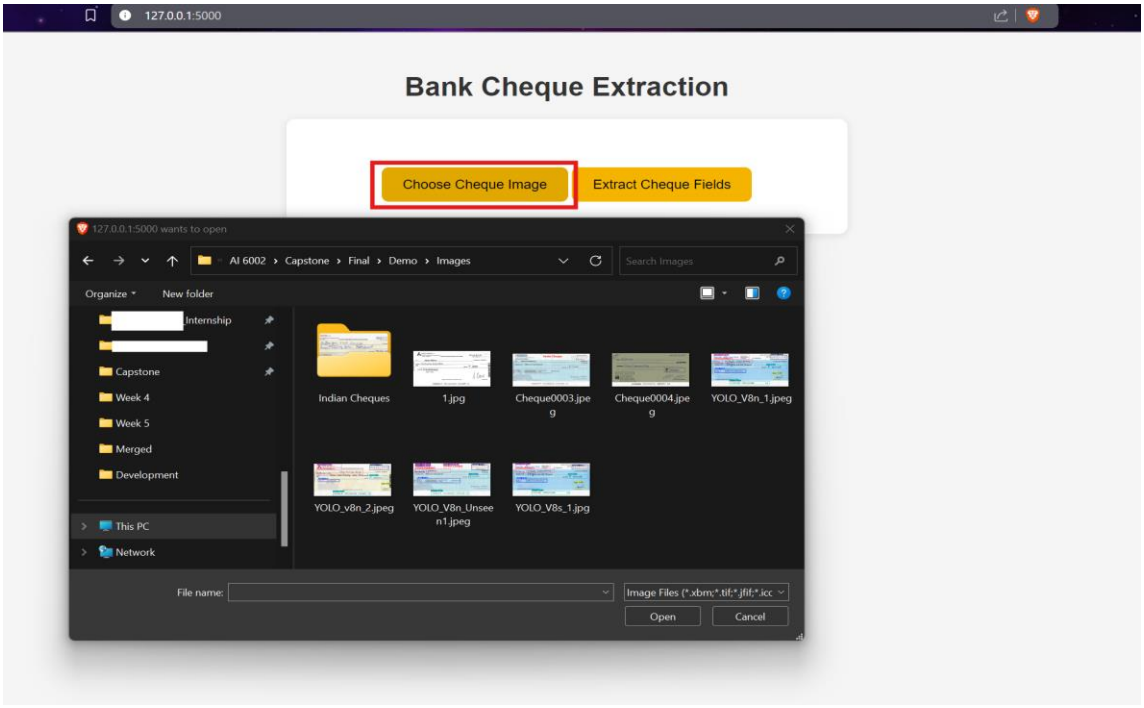

Figure 9 – Selecting Cheque Image from local system

3. Upon selecting an image, it will get displayed as below –

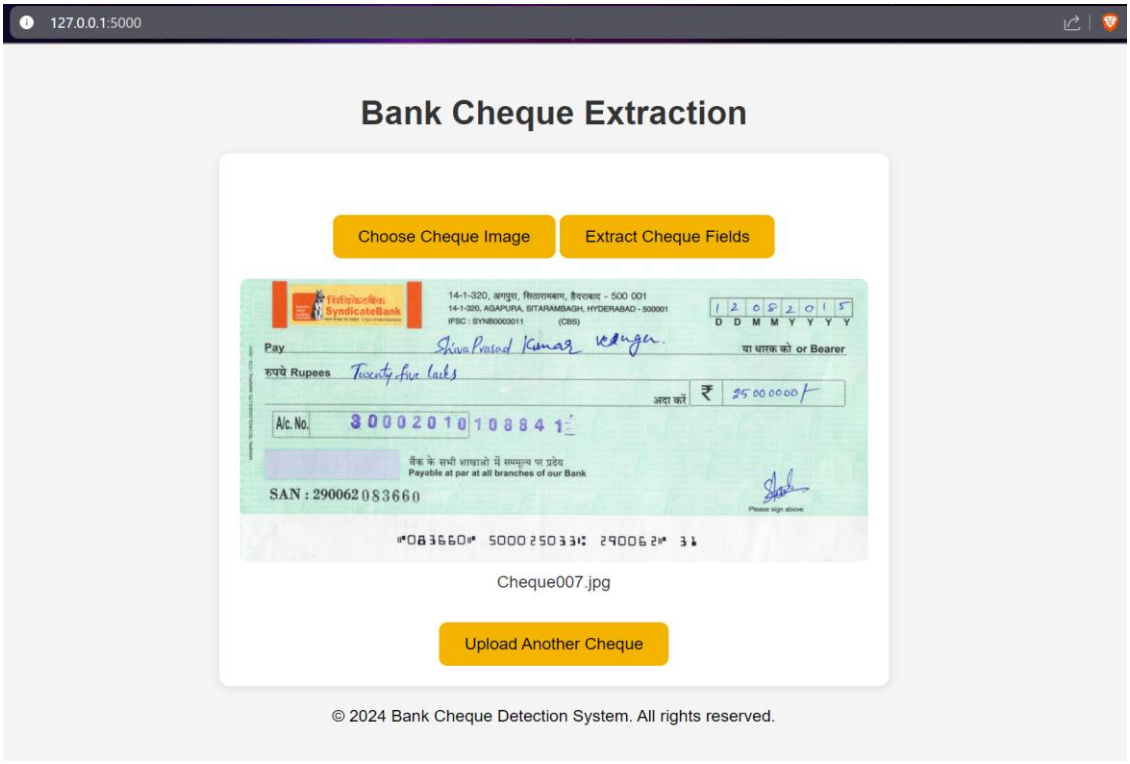

Figure 10 – Displaying the selected Cheque Image

4. Now another button shows up that gives user the option to select another cheque image if the initial was mistakenly selected as below –

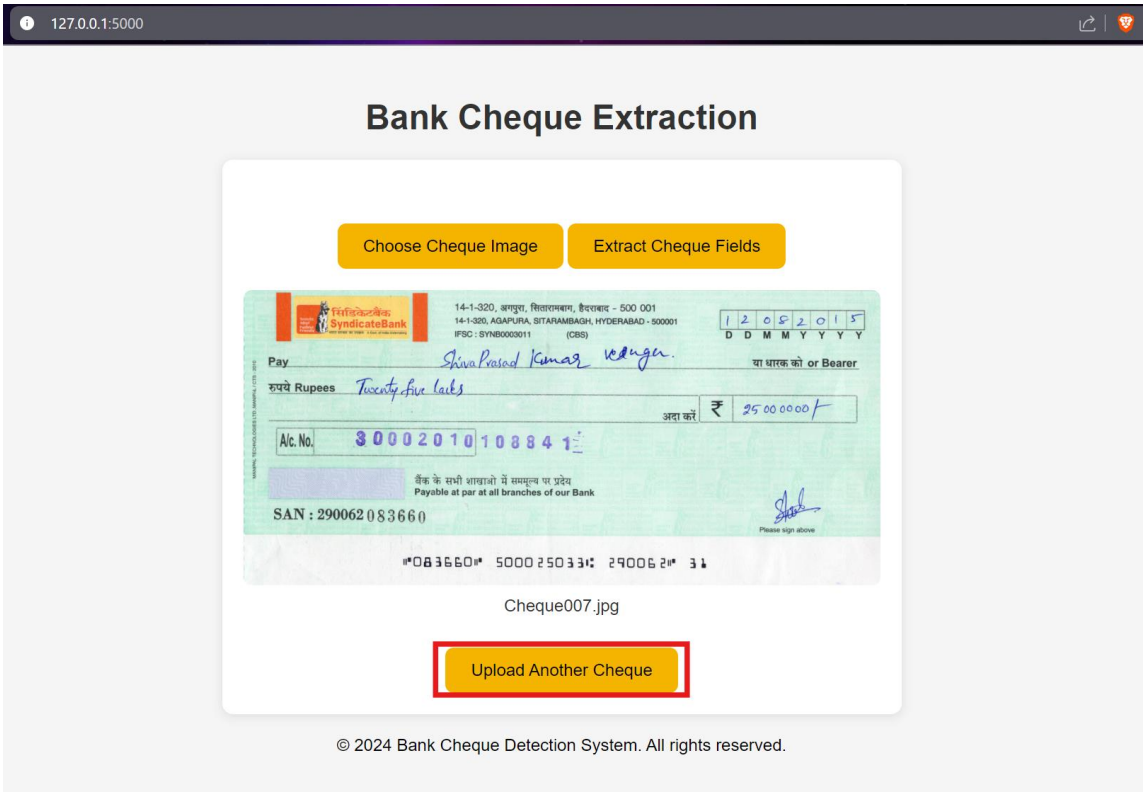

Figure 11 – Reuploading Cheque Image (if required)

5. Once a cheque image has been finalized (we changed it to an ICICI bank cheque as an example of the above step), press the 'Extract Cheque Fields' button. Once clicked, the extracted fields and the predicted regions on the cheque will be displayed as below –

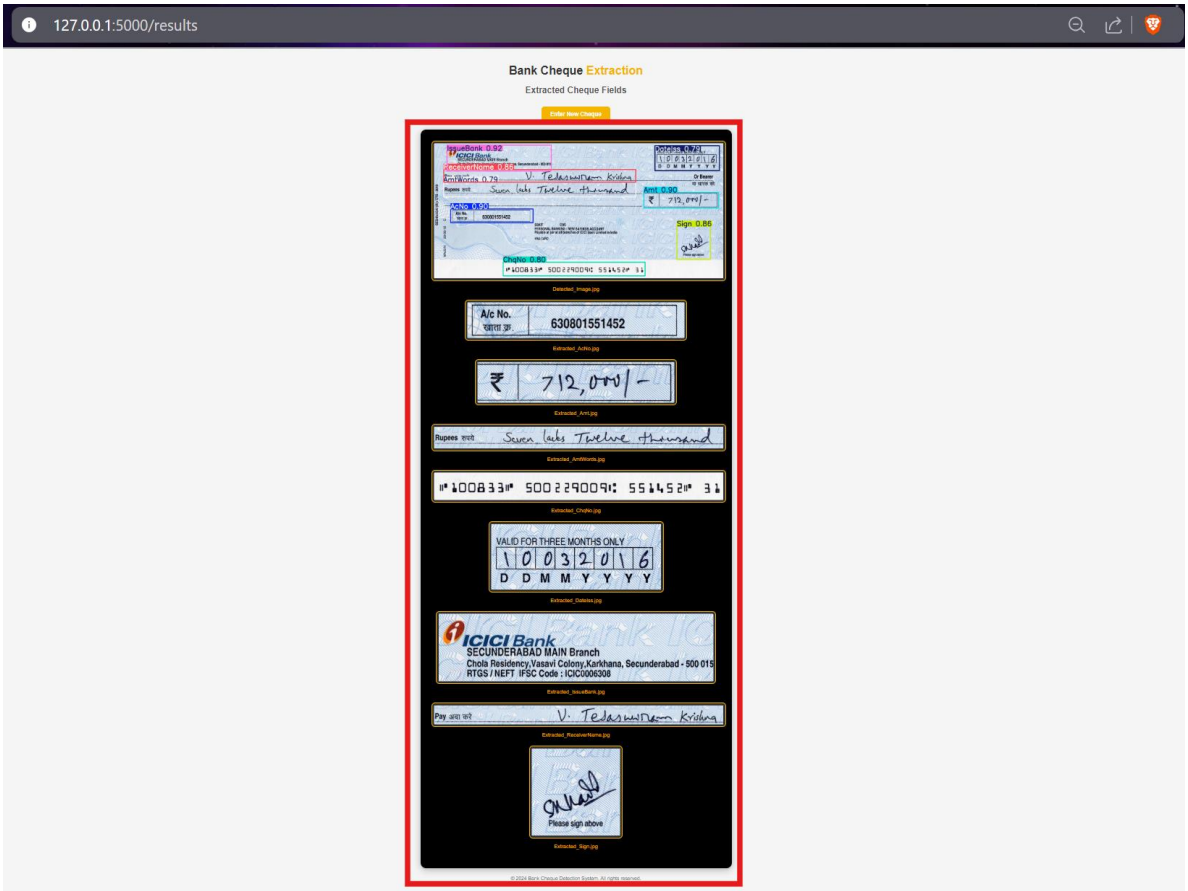

Figure 12 – Extracted Cheque Fields (page reduced to 33% to capture the entire result)

6. A new cheque can also be uploaded after extracting the fields of the previous cheque by clicking the 'Enter New Cheque' button as below –

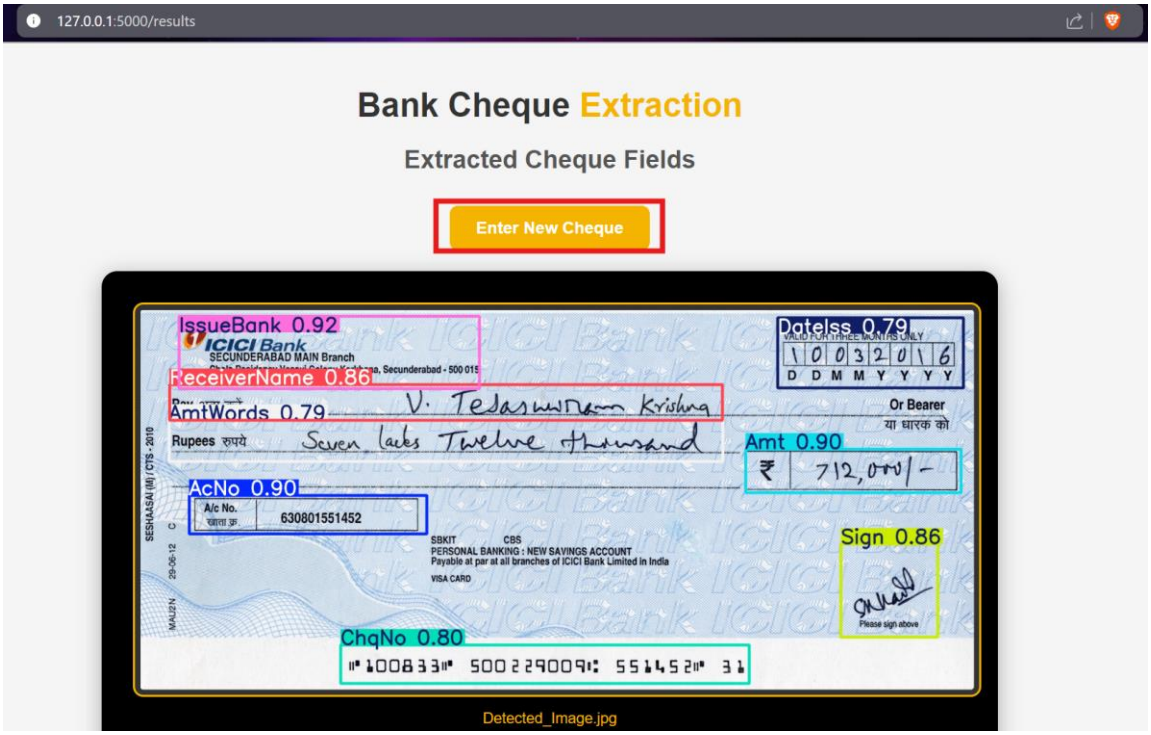

Figure 13 – Enter New Cheque after extracting cheque fields

7. Once all experiments are done, make sure to close the browser window and VS Code otherwise they will keep taking up memory.

Signature Verification Notebook –

1. The Colab Notebook for the signature verification can be found here.
2. First the required data (as highlighted) needs to be put in your Google drive parent folder (My Drive) as below –

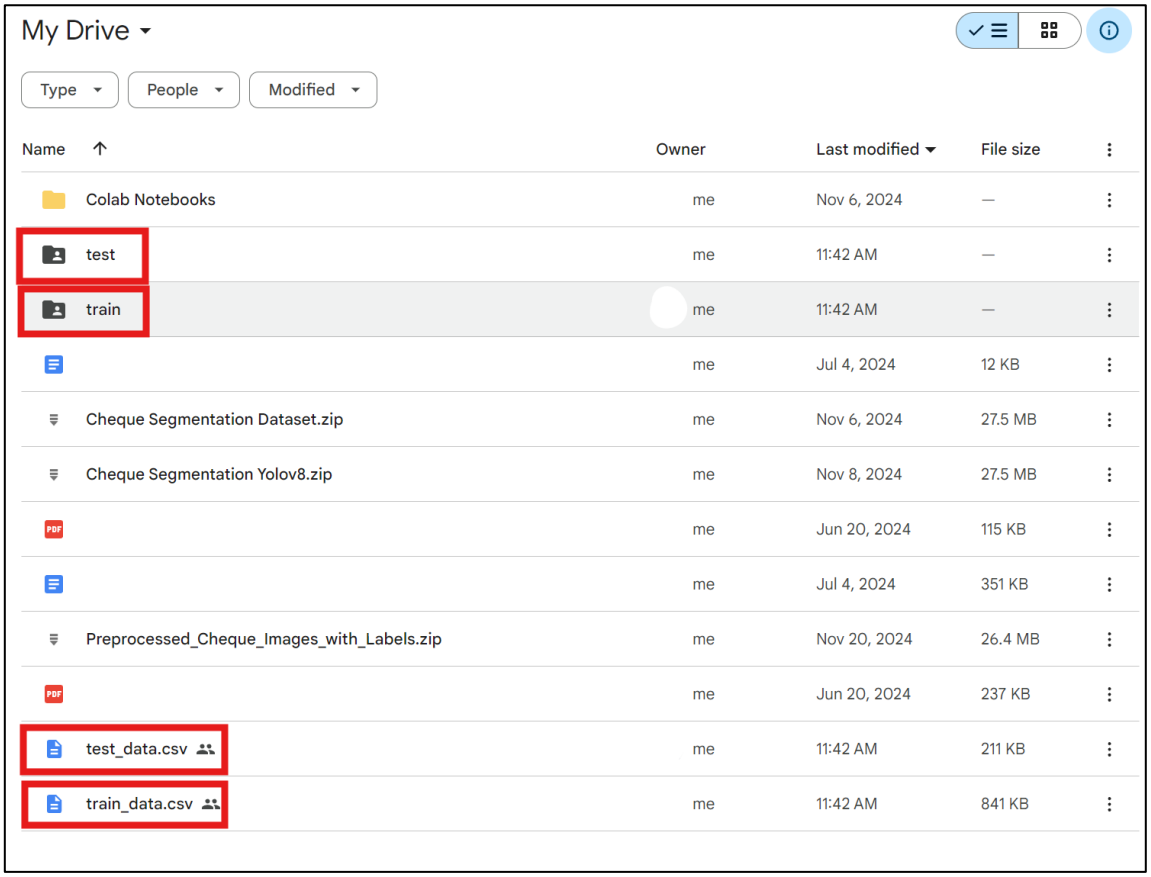

Figure 14 – Required Data for running the Colab Notebook

3. Once the proper data is downloaded, all the other steps are detailed in the Notebook and it is as simple as pressing the 'Run All' button on the notebook as below –

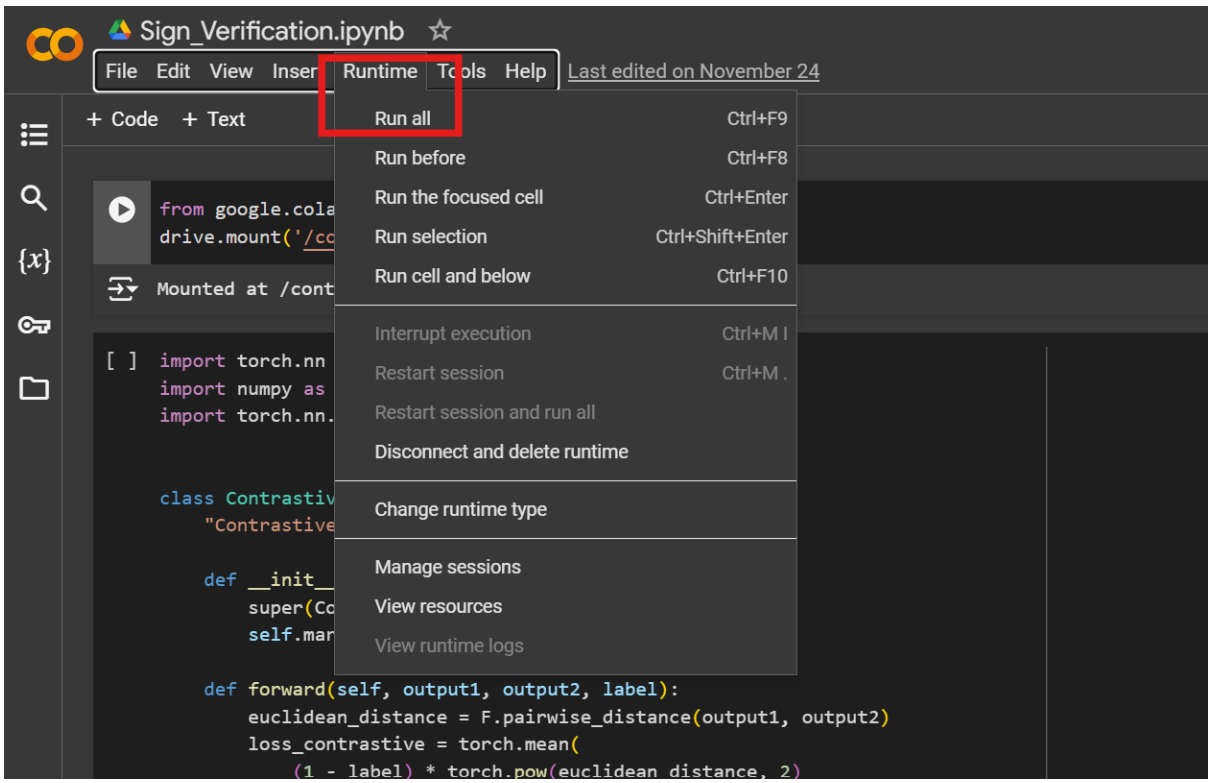

Figure 15 – Run all option in Google Colab

(This will take a lot of time to run and train a model even on Colab GPU to reach a good level of performance)

4. This is just a Proof-of-Concept Notebook so it is advised not to change anything in the notebook.