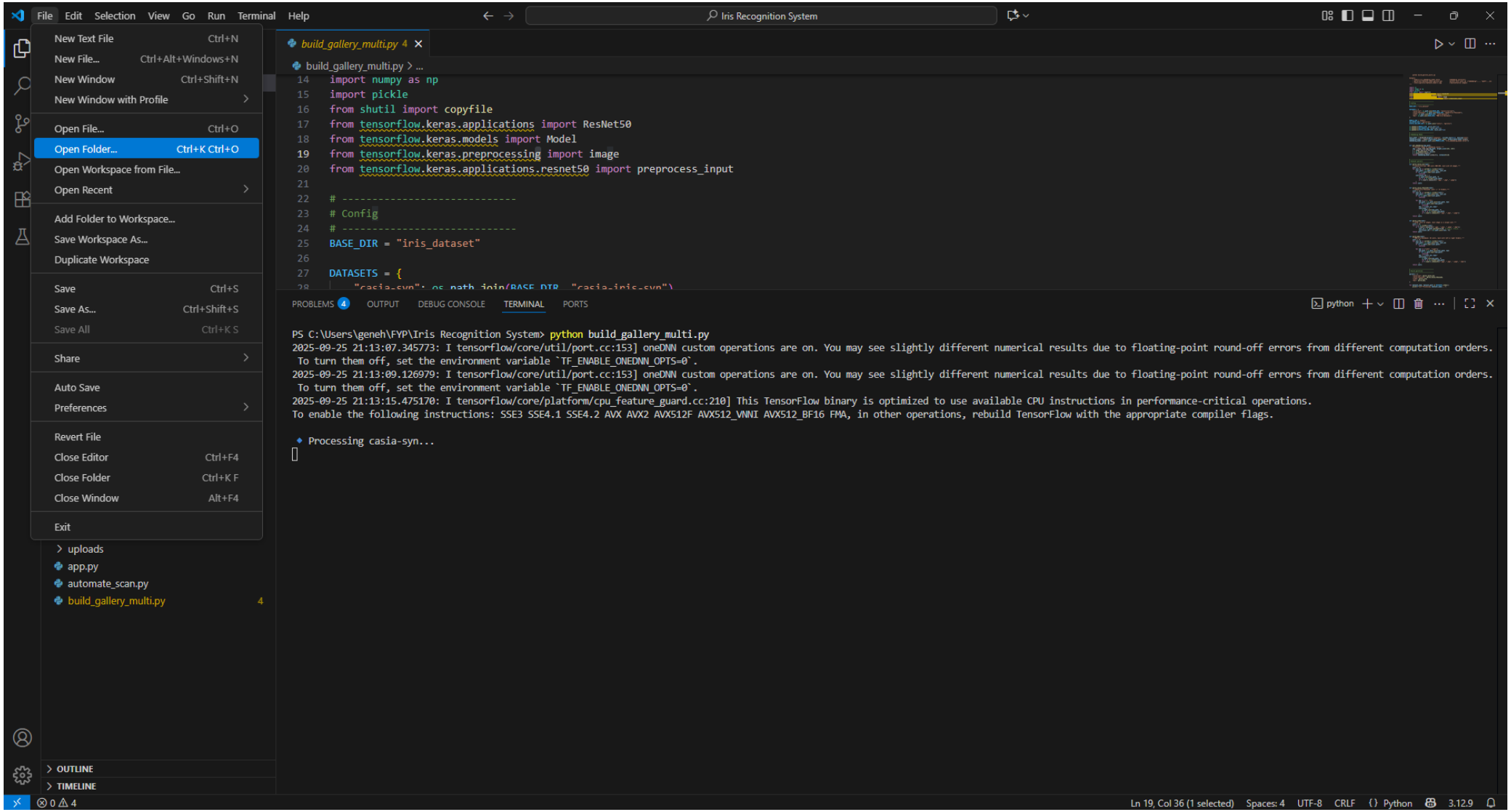
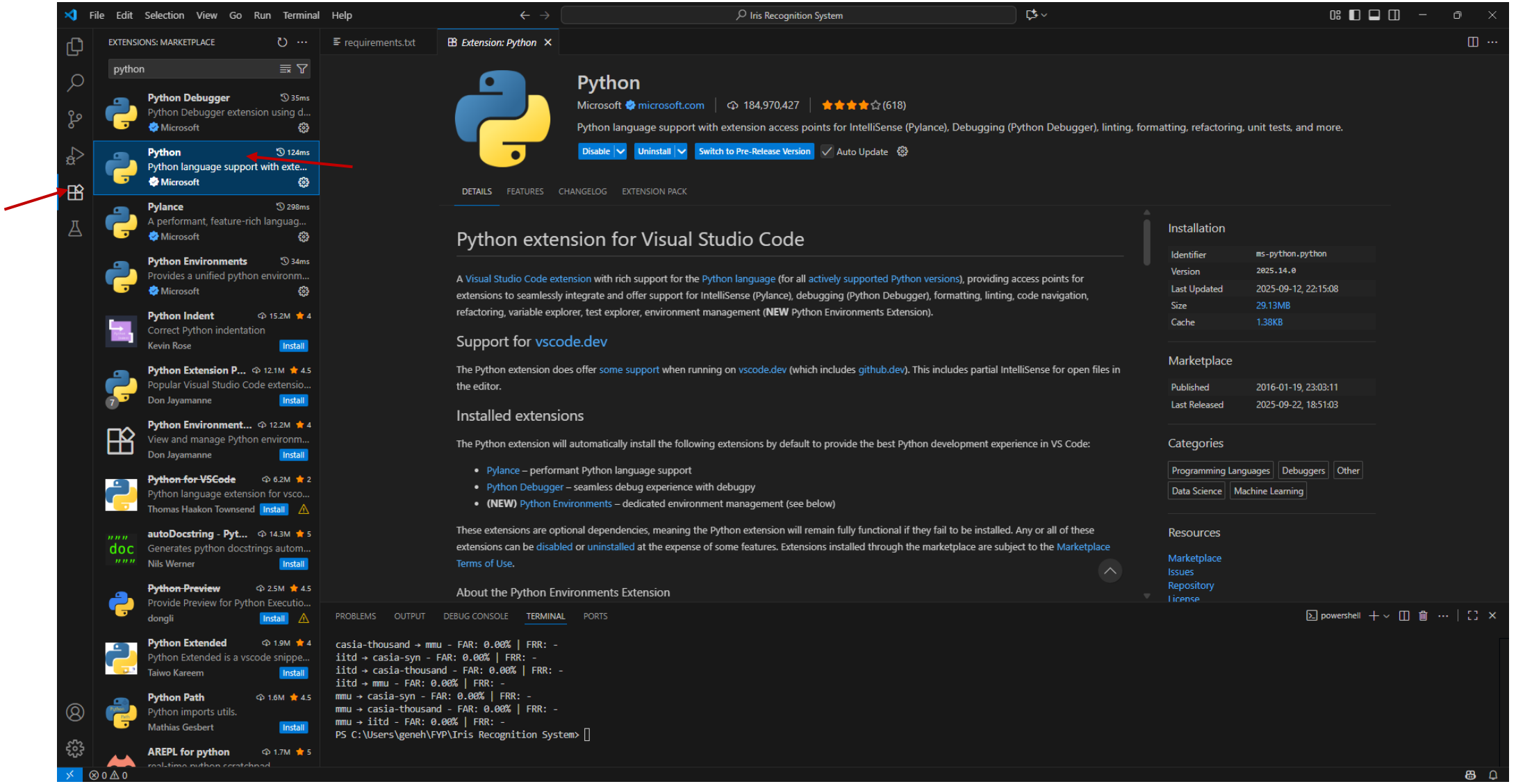
Iris Recognition System for Library User Manual

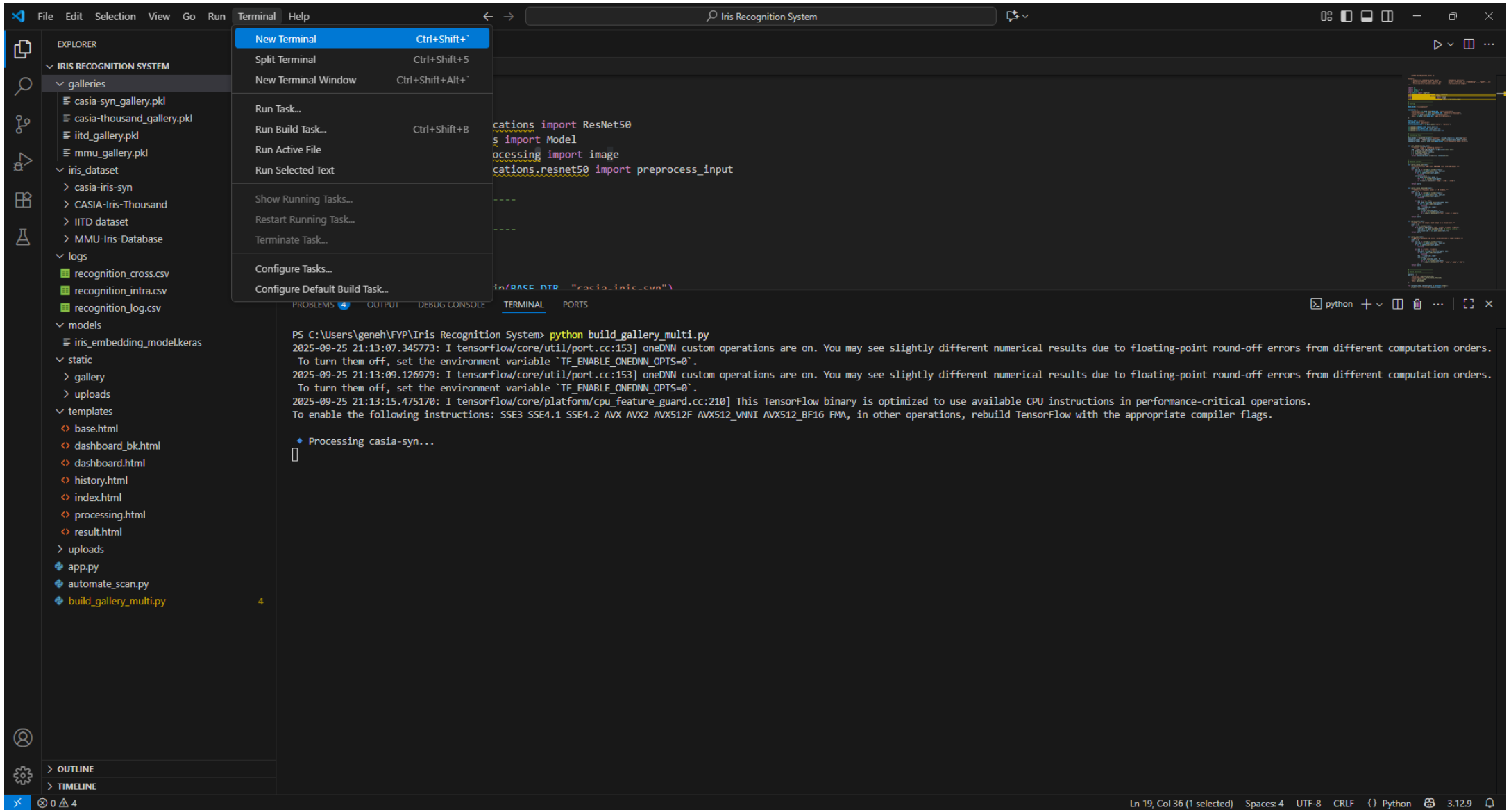
Step 1: Open Visual Studio Code and open the system folder



Step 2: In VS Code marketplace search for Python and download it



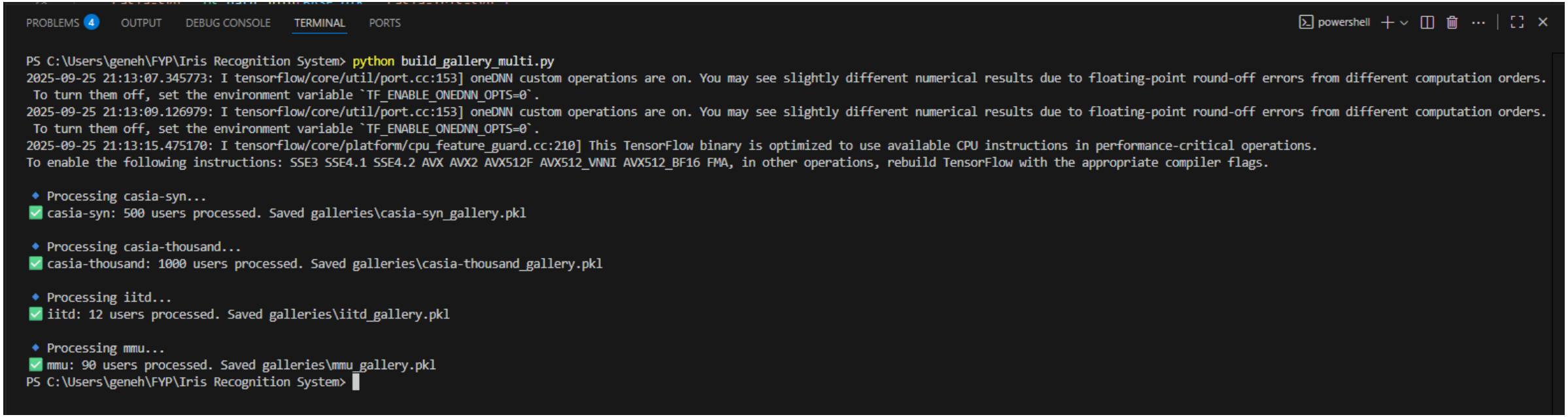
Step 3: Go to Terminal and click new terminal



Step 4: Type “pip install -r requirements.txt” in the terminal

```
PS C:\Users\geneh\FYP\Iris Recognition System> pip install -r requirements.txt
Collecting flask==3.0.3 (from -r requirements.txt (line 1))
  Using cached flask-3.0.3-py3-none-any.whl.metadata (3.2 kB)
Collecting tensorflow==2.16.1 (from -r requirements.txt (line 2))
  Using cached tensorflow-2.16.1-cp312-cp312-win_amd64.whl.metadata (3.5 kB)
Collecting scikit-learn==1.3.2 (from -r requirements.txt (line 3))
  Downloading scikit_learn-1.3.2-cp312-cp312-win_amd64.whl.metadata (11 kB)
Collecting numpy==1.26.4 (from -r requirements.txt (line 4))
  Using cached numpy-1.26.4-cp312-cp312-win_amd64.whl.metadata (61 kB)
Collecting pandas==2.1.4 (from -r requirements.txt (line 5))
  Downloading pandas-2.1.4-cp312-cp312-win_amd64.whl.metadata (18 kB)
Collecting matplotlib==3.8.2 (from -r requirements.txt (line 6))
  Downloading matplotlib-3.8.2-cp312-cp312-win_amd64.whl.metadata (5.9 kB)
Collecting pillow==10.4.0 (from -r requirements.txt (line 7))
  Using cached pillow-10.4.0-cp312-cp312-win_amd64.whl.metadata (9.3 kB)
Requirement already satisfied: Werkzeug>=3.0.0 in c:\users\geneh\appdata\local\programs\python\python312\lib\site-packages (from flask==3.0.3->-r requirements.txt (line 1)) (3.1.3)
Requirement already satisfied: Jinja2>=3.1.2 in c:\users\geneh\appdata\local\programs\python\python312\lib\site-packages (from flask==3.0.3->-r requirements.txt (line 1)) (3.1.6)
Requirement already satisfied: itsdangerous>=2.1.2 in c:\users\geneh\appdata\local\programs\python\python312\lib\site-packages (from flask==3.0.3->-r requirements.txt (line 1)) (2.2.0)
Requirement already satisfied: click>=8.1.3 in c:\users\geneh\appdata\local\programs\python\python312\lib\site-packages (from flask==3.0.3->-r requirements.txt (line 1)) (8.1.8)
Requirement already satisfied: blinker>=1.6.2 in c:\users\geneh\appdata\local\programs\python\python312\lib\site-packages (from flask==3.0.3->-r requirements.txt (line 1)) (1.9.0)
Collecting tensorflow-intel==2.16.1 (from tensorflow==2.16.1->-r requirements.txt (line 2))
  Using cached tensorflow_intel-2.16.1-cp312-cp312-win_amd64.whl.metadata (5.0 kB)
Requirement already satisfied: scipy>=1.5.0 in c:\users\geneh\appdata\local\programs\python\python312\lib\site-packages (from scikit-learn==1.3.2->-r requirements.txt (line 3)) (1.15.2)
```

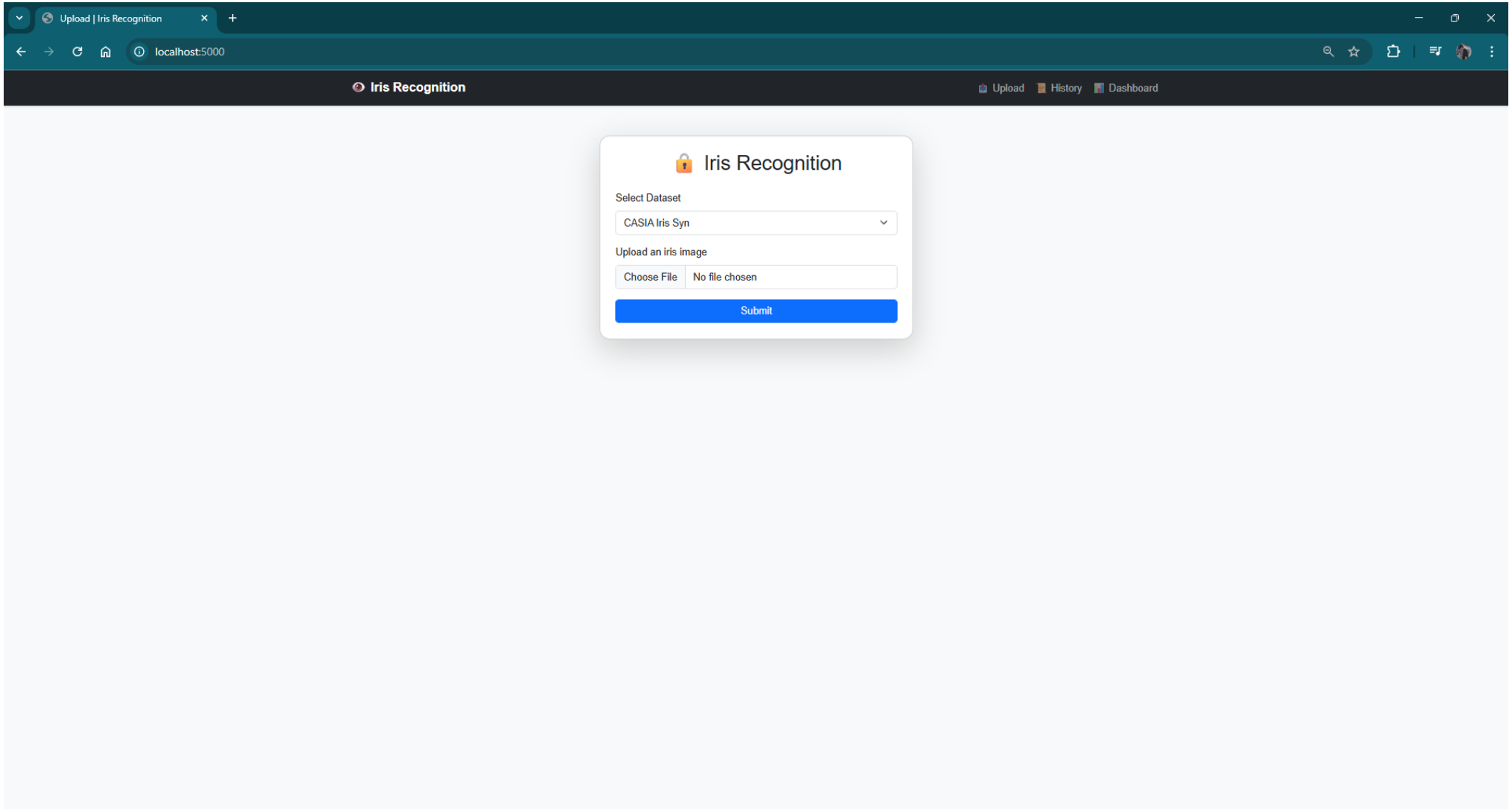
Step 5: In the terminal, type “python build_gallery_multi.py”. Then, wait until the progress is done as shown below



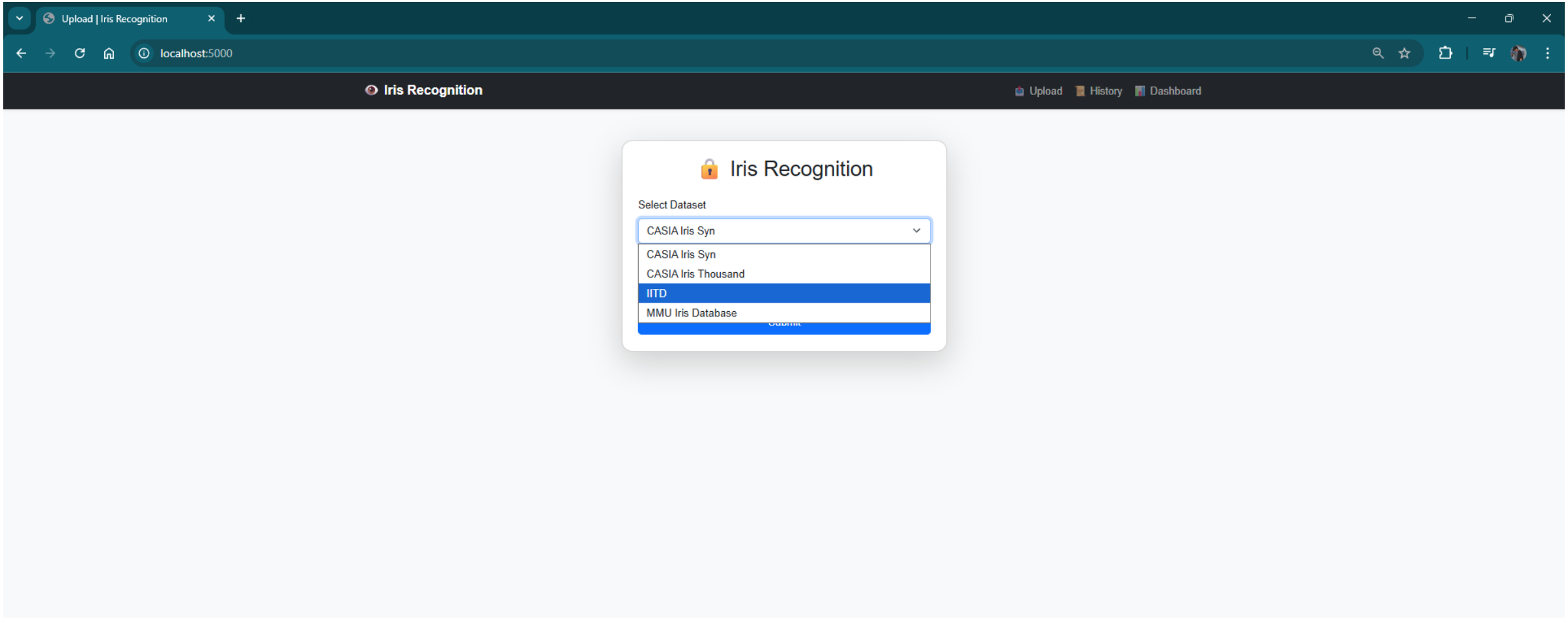
Step 6: In the terminal, type “app.py”

```
PS C:\Users\geneh\FYP\Iris Recognition System> python app.py
2025-09-25 21:35:17.928213: I tensorflow/core/util/port.cc:153] oneDNN custom operations are on. You may see slightly different numerical results due to floating-point round-off errors from different computation orders.
 To turn them off, set the environment variable `TF_ENABLE_ONEDNN_OPTS=0`.
2025-09-25 21:35:18.759815: I tensorflow/core/util/port.cc:153] oneDNN custom operations are on. You may see slightly different numerical results due to floating-point round-off errors from different computation orders.
 To turn them off, set the environment variable `TF_ENABLE_ONEDNN_OPTS=0`.
2025-09-25 21:35:21.953029: I tensorflow/core/platform/cpu_feature_guard.cc:210] This TensorFlow binary is optimized to use available CPU instructions in performance-critical operations.
To enable the following instructions: SSE3 SSE4.1 SSE4.2 AVX AVX2 AVX512F AVX512_VNNI AVX512_BF16 FMA, in other operations, rebuild TensorFlow with the appropriate compiler flags.
 * Serving Flask app 'app'
 * Debug mode: on
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
 * Running on http://127.0.0.1:5000
Press CTRL+C to quit
 * Restarting with stat
 * Debugger is active!
 * Debugger PIN: 585-708-882
```

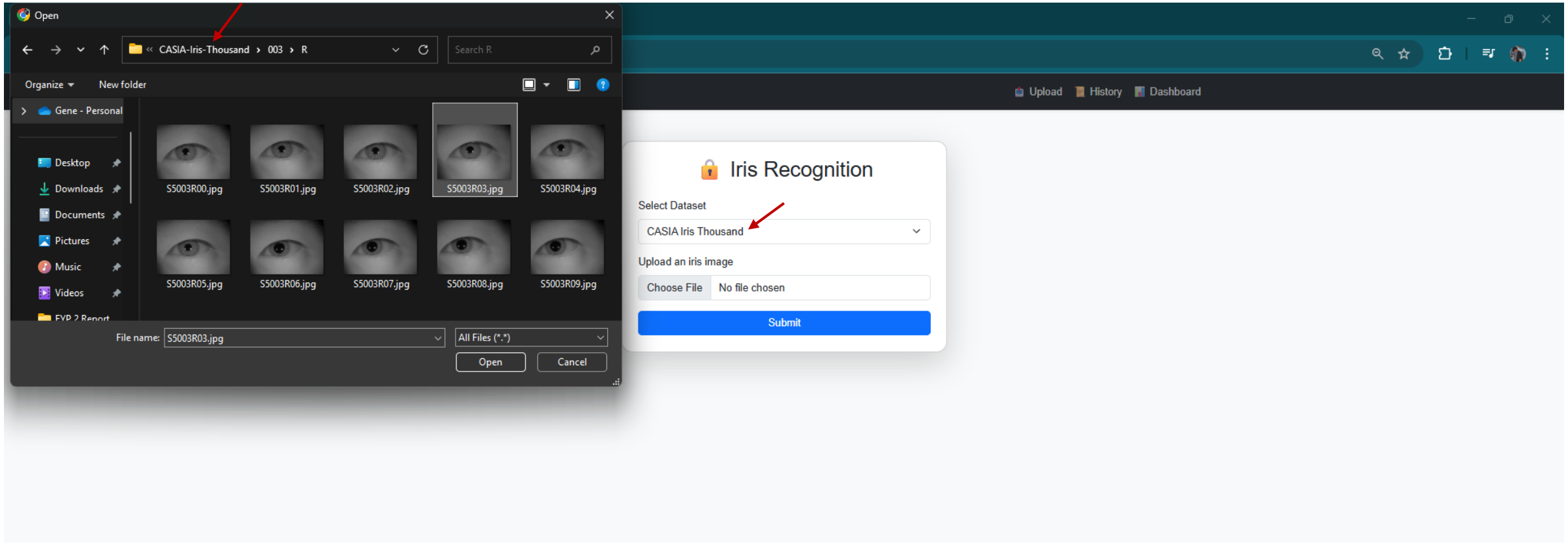
Step 7: Go to web browser and type “http://localhost:5000/”



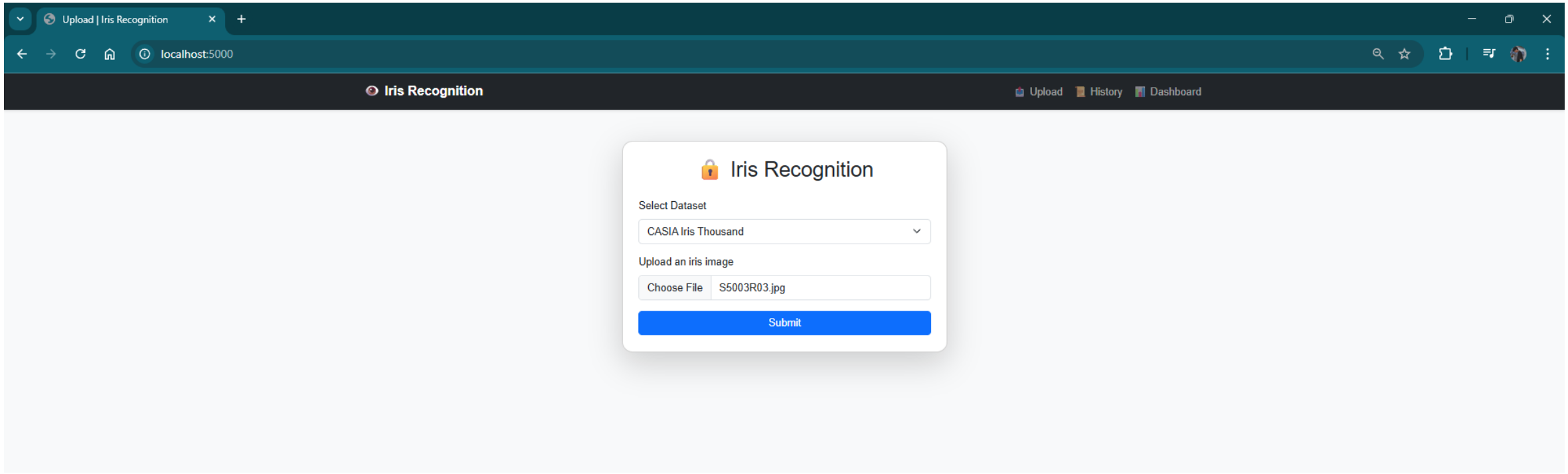
Step 8: Select the dataset that you want to scan in the drop-down menu



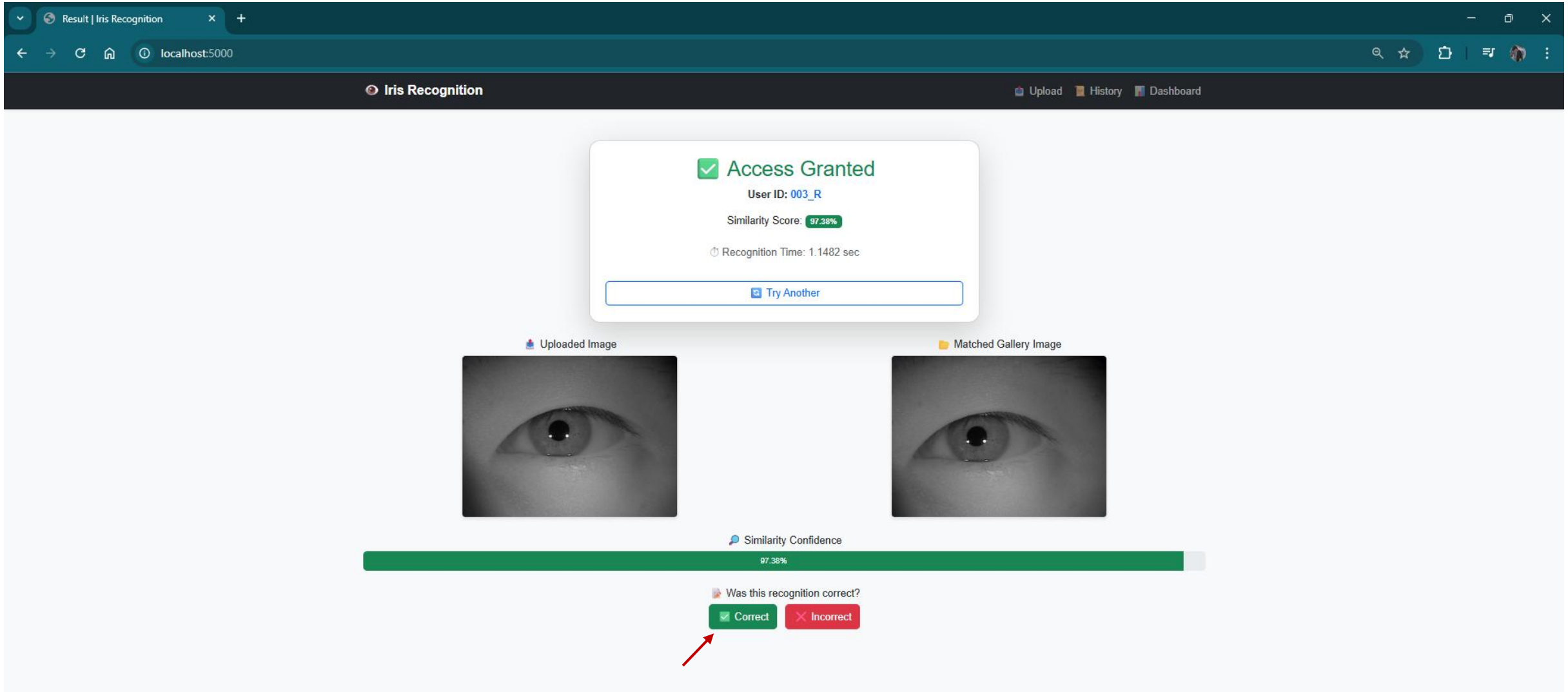
Step 9: Upload an iris image from the selected database



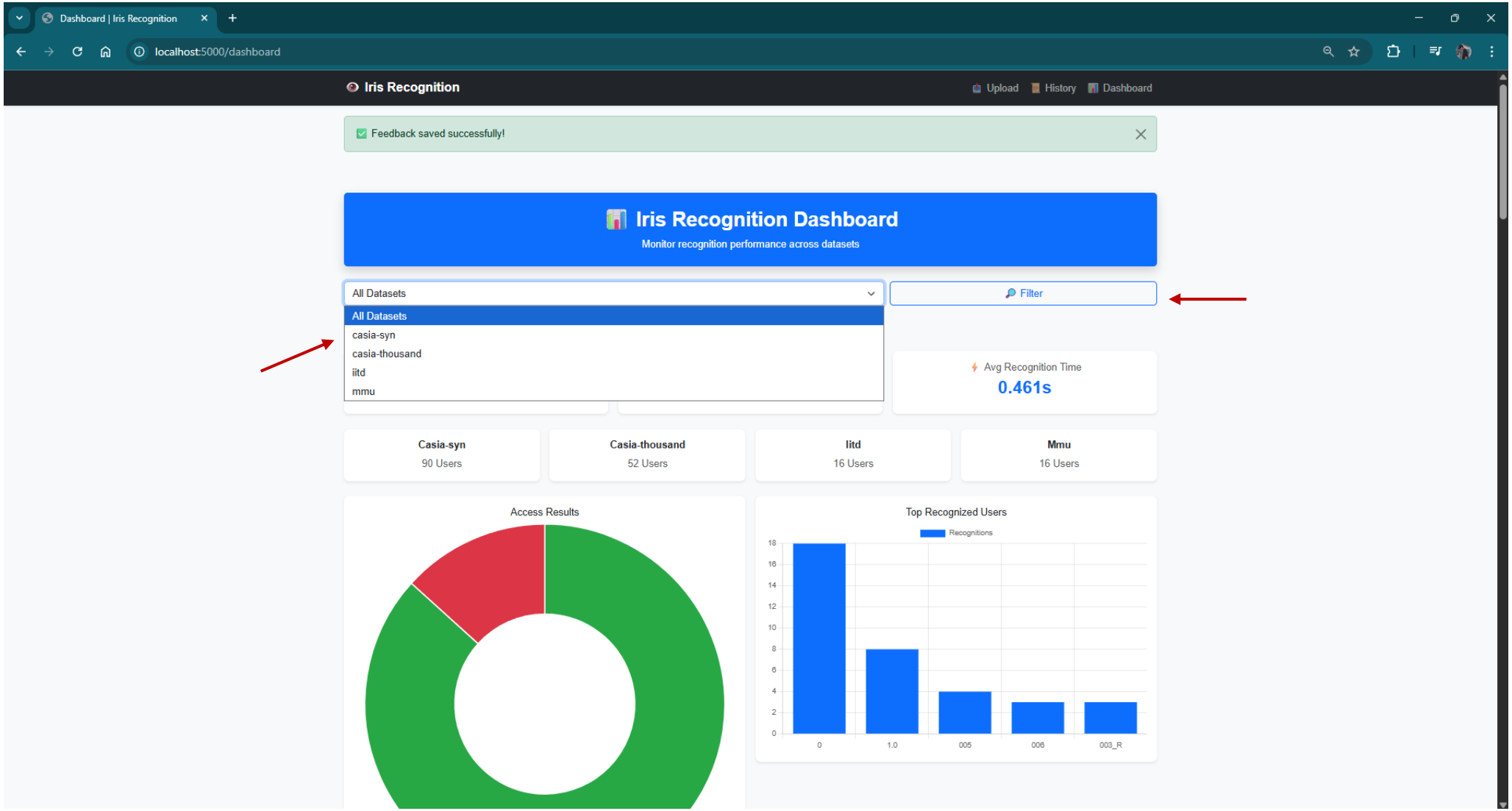
Step 10: Click Submit



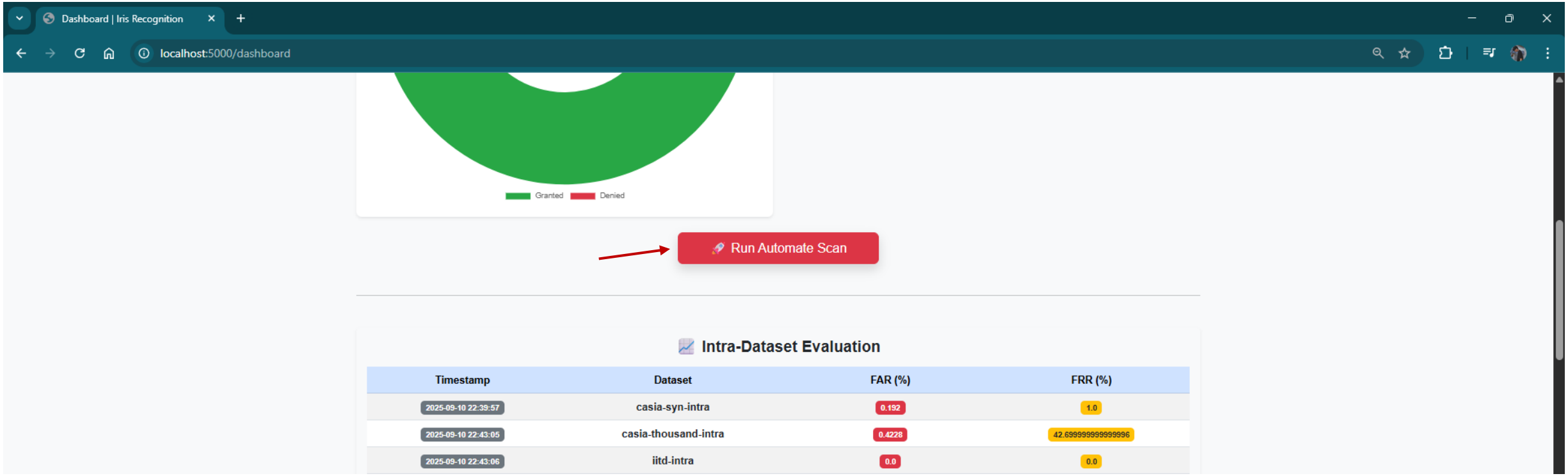
Step 11: Check whether the recognized image is correct or incorrect. Then, provide the feedback below



Step 12: You may view the dashboard for all datasets or a specific dataset, then click filter



Step 13a: There are two ways to run automate scan to get the intra-dataset and cross-dataset results. First is clicking the run automate scan button in the dashboard page shown below



Step 13b: Second is running it offline in VS Code by typing “python automate_scan.py” in the terminal