SUMMER INTERNSHIP REPORT

– MCA 1ST YEAR, 2ND SEMESTER

ABOUT INTERNSHIP :

- **Student Name:** Y. Narmadha
- **Roll Number:**
- **Internship Organization:** *Renu Sharma Foundation*
- **College:** Siddhartha Institute of Technology & Sciences (SITS), Ghatkesar, Hyderabad
- College Website: https://Siddhartha.co.in/
- **Duration:** *29th NOVEMBER 2024 to 1st March 2025 (3 Months)*
- **Mentor :** *ANKITH SHARMA*

INTERNSHIP REPORT RENUSHARMA FOUNDATION

- **ORGANIZATION:** RENU SHARMA FOUNDATION
- **NATURE:** VOLUNTARY TECHNICAL INTERNSHIP
- **PROJECT:** CAR NUMBER PLATE RECOGNITION USING PYTHON AND OPENCV
- **MINOR PROJECT:** DATA COLLECTION AND REPORTING USING POWER BI/TRADING STRATEGY ANALYSIS.

MAJOR PROJECT OVERVIEW :

- **Title:** Car Number Plate Recognition

- **Technologies Used:** Python, OpenCV, NumPy, Image Processing, OCR

- **Goal:** Automatically detect and recognize vehicle number plates from images or live video feed and we can save the images into an a excel sheet

MAJOR PROJECT OVERVIEW :

- Image acquisition
- Pre-processing
- Edge detection
- Contour detection
- Plate isolation
- OCR recognition

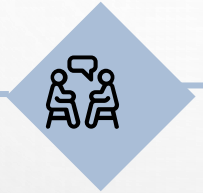
Data collection

Data Collection:I did use harcascade file for our project.

Data Feeding

Image capturing-Capture the image or video frame of the vehicle using a camera or webcam

Data Processing



Pre-processing
Convert the image to grayscale and apply filters to remove noise and enhance clarity.

Edge detection

Edge Detection
Detect the outlines of objects in the image to identify the boundaries of the number plate.

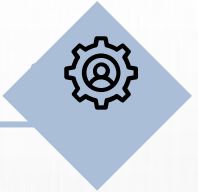
Contour Detection

Contour Detection
Find and analyze shapes in the image that may resemble a license plate region.

Plate Isolation

Plate Isolation
Crop the identified region containing the number plate from the image.

OCR



OCR Recognition (Tesseract)
Use Optical Character Recognition to extract the alphanumeric text from the number plate.

```
plate_cascade = cv2.CascadeClassifier(harcascade)
img_gray = cv2.cvtColor(img, cv2.COLOR_BGR2GRAY)
plates = plate_cascade. detectMultiScale(img_gray, 1.1, 4)


for(x,y,w,h) in plates:
    area = w*h

    if area > min_area:
        cv2.rectangle(img, (x,y),(x+w,y+h),(0,255,0), 2)
        cv2.putText(img,"NUMBER PLATE",(x,y-5),cv2.FONT_HERSHEY_COMPLEX_SMALL, 1, (255,0,255), 2)


        #img_roi = img[y: y+ h,x: x+w]
        #cv2.imshow("ROI", img_roi)
        img_roi = img[y:y + h, x:x + w]
        cv2.imshow("ROI", img_roi)  # Show the ROI'''


cv2.imshow("Result",img)

if cv2.waitKey(1) & 0xFF == ord('s'):
    cv2.imwrite("plates/scaned_img_" + str(count) + ".jpg", img_roi)
    cv2.rectangle(img, (0,200), (640,300), (0,255,0), cv2.FILLED)
    cv2.putText(img, "Plate Saved", (150, 265), cv2.FONT_HERSHEY_COMPLEX_SMALL, 2, (0, 0, 255), 2)
    cv2.imshow("Results",img)
    cv2.waitKey(500)
    count += 1
```

SAVING NUMBER PLATE :

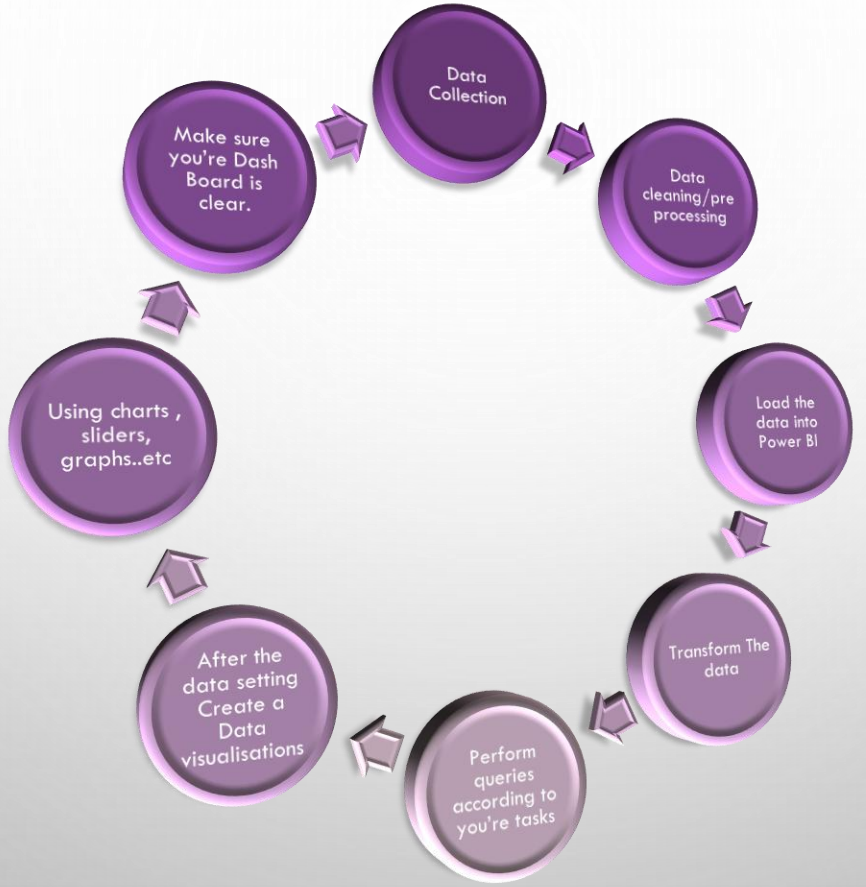
MINOR PROJECT:

- **TITLE:** DATA ANALYTICS – POWERBI TRADING STRATEGY ANALYSIS.
- **TOOLS USED:** POWER BI, EXCEL

- **OVERVIEW:**

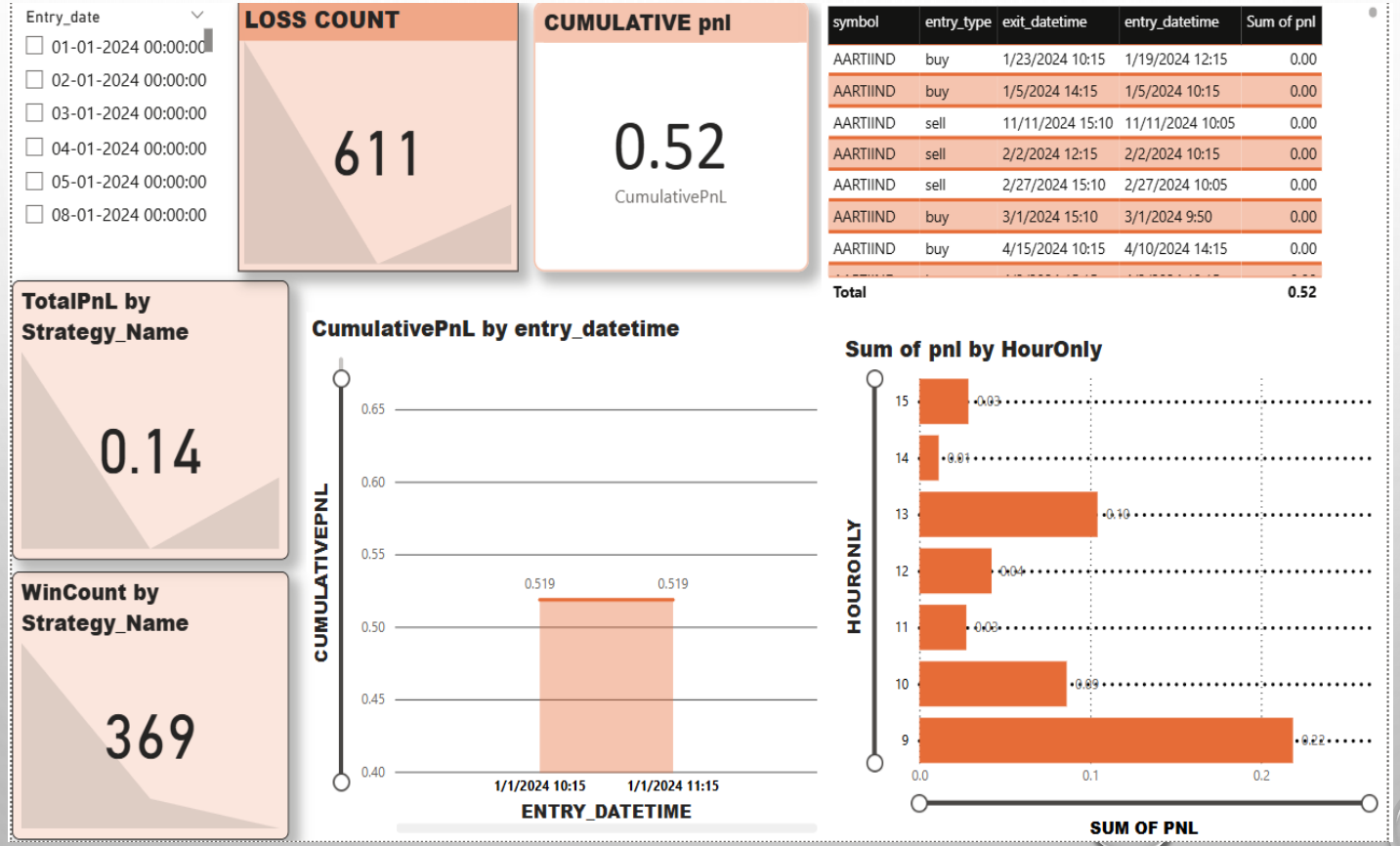
COLLECTED DATA SETS AND DEVELOPED INTERACTIVE REPORTS AND DASHBOARDS FOR BETTER DECISION-MAKING AND VISUAL ANALYTICS USING POWER BI.

PROCEDURE :


Data Collection
Data cleaning/pre processing
Load the data into Power BI
Transform The data
Perform queries according to you're tasks
After the data setting Create a Data visualisations
Using charts , sliders, graphs..etc
Make sure you're Dash Board is clear.

THIS POWER BI PROJECT ANALYZES TRADING STRATEGIES USING THREE DATASETS, COMBINING THEM INTO A UNIFIED TABLE WITH STRATEGY LABELS. IT VISUALIZES KEY METRICS LIKE TOTAL PNL, WIN/LOSS COUNTS, CUMULATIVE PNL, AND TRADE TRENDS. USERS CAN DRILL THROUGH STRATEGY DETAILS, FILTER BY DATE, AND EXPLORE INSIGHTS INTERACTIVELY. 🚀

DASHBOARD


Entry_date
01-01-2024 00:00:00
02-01-2024 00:00:00
03-01-2024 00:00:00
04-01-2024 00:00:00
05-01-2024 00:00:00
08-01-2024 00:00:00
LOSS COUNT
611
CUMULATIVE pnl
0.52
CumulativePnL
symbol | entry_type | exit_datetime | entry_datetime | Sum of pnl
AARTIIND | buy | 1/23/2024 10:15 | 1/19/2024 12:15 | 0.00
AARTIIND | buy | 1/5/2024 14:15 | 1/5/2024 10:15 | 0.00
AARTIIND | sell | 11/11/2024 15:10 | 11/11/2024 10:05 | 0.00
AARTIIND | sell | 2/2/2024 12:15 | 2/2/2024 10:15 | 0.00
AARTIIND | sell | 2/27/2024 15:10 | 2/27/2024 10:05 | 0.00
AARTIIND | buy | 3/1/2024 15:10 | 3/1/2024 9:50 | 0.00
AARTIIND | buy | 4/15/2024 10:15 | 4/10/2024 14:15 | 0.00
Total 0.52
TotalPnL by Strategy_Name
0.14
WinCount by Strategy_Name
369
CumulativePnL by entry_datetime
CUMULATIVEPNL
0.65
0.60
0.55
0.50
0.45
0.40
0.519
0.519
1/1/2024 10:15
1/1/2024 11:15
ENTRY_DATETIME
Sum of pnl by HourOnly
HOURONLY
15
14
13
12
11
10
9
0.03
0.01
0.10
0.04
0.03
0.09
0.22
0.0
0.1
0.2
SUM OF PNL

LEARNINGS :

- TECHNICAL:
  - PYTHON, OPENCV
  - POWER BI DASHBOARDING
- SOFT SKILLS:
  - TEAM COLLABORATION
  - TIME MANAGEMENT
  - REPORT CREATION

OUTCOME & IMPACT :

- ENHANCED REAL-WORLD SKILLS IN IMAGE PROCESSING AND DATA VISUALIZATION
- CREATED END-TO-END WORKING PROTOTYPES
- GAINED EXPOSURE TO NGO OPERATIONS VIA RENU SHARMA FOUNDATION

CERTIFICATE :

CONTACTS & LINKS:

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- **LinkedIn:** https://www.linkedin.com/in/narmadha-yeshabouda-250931287
- **GitHub:** https://github.com/Narmadha21art