

Intelligent Invoice Management System

Problem Statement:

Traditional manual invoice processing methods are time-consuming, error-prone, and labor-intensive. These methods involve manual data entry, verification, and reconciliation, leading to operational inefficiencies and increased costs. Moreover, manual processes are susceptible to human error, which can result in financial losses and delayed payments.

To develop an AI-powered system that automates the process of invoice data extraction, validation, and management. This system will significantly reduce manual effort, improve accuracy, and accelerate the entire invoice processing cycle.

Details of the Tasks:

- **Varied Invoice Formats:** Invoices from different vendors often come in various formats. In this context you are required to generate the invoices in PDF format of **at least 4 formats of invoices**.
- **Data Development:** Develop the data of the invoices in PDF file format (one sample is given in the Figure 1) using the data provided in separate **excel file (will be is attached)**. This file contains Receipt_NO, NTN, NAME, BUSINESS_NAME, S.T.Reg. No, Phone Number and Address information. However
 - find dummy logo from net and paste for **Company Logo**
 - Based on name of the company add these details for **Company Dealing in**
 - **SALES TAX Invoice**
 - Range dates in days, month and year results in 6 year data for 20 K invoices for **Date**
 - To fill the Table given in invoice printed form not handwritten. You are required to add 4 rows having all information of four item. Write a code which automatically generate PDF invoices
- **Each group is required to generate 20K invoices by getting 20K rows data from the excel file. Define labels classes, define structure of XML, JSON for each labels having TBLR, CLASS Name, Recognized Text**
- **Automatically label data using Tesseract OCR as discussed in class**
- **Train and test YOLO: get TBLR and CLASS from YOLO**
- **Recognize each label image from the OCR(Tesseract) and add in the DB**
- **Develop a web-based information system which will facilitate to upload invoices and get information against Company name or NTN Number for following information**
 - Total Sales FROM to TO duration
 - Total SALES TAX PAID FROM to TO duration
 - Details in for of table FROM to TO duration



Head Office: 3, Qaddafi
Market, Brandreth Road,
Lahore. Tel: 37652830
Cell: 0300-8420815
0321-4309342

SALES TAX INVOICE

Buyer's Name: BATA PAKISTAN LTD.
Address: Bata Pur Laore.
S.T. Reg: No. 03-03-6400-005-64
NTN 0709877-4

Sales Tax: 8710/
Net Tax Inclusive Value 58410/

Signature _____
Name & Designation _____

Figure 1sample invoice image