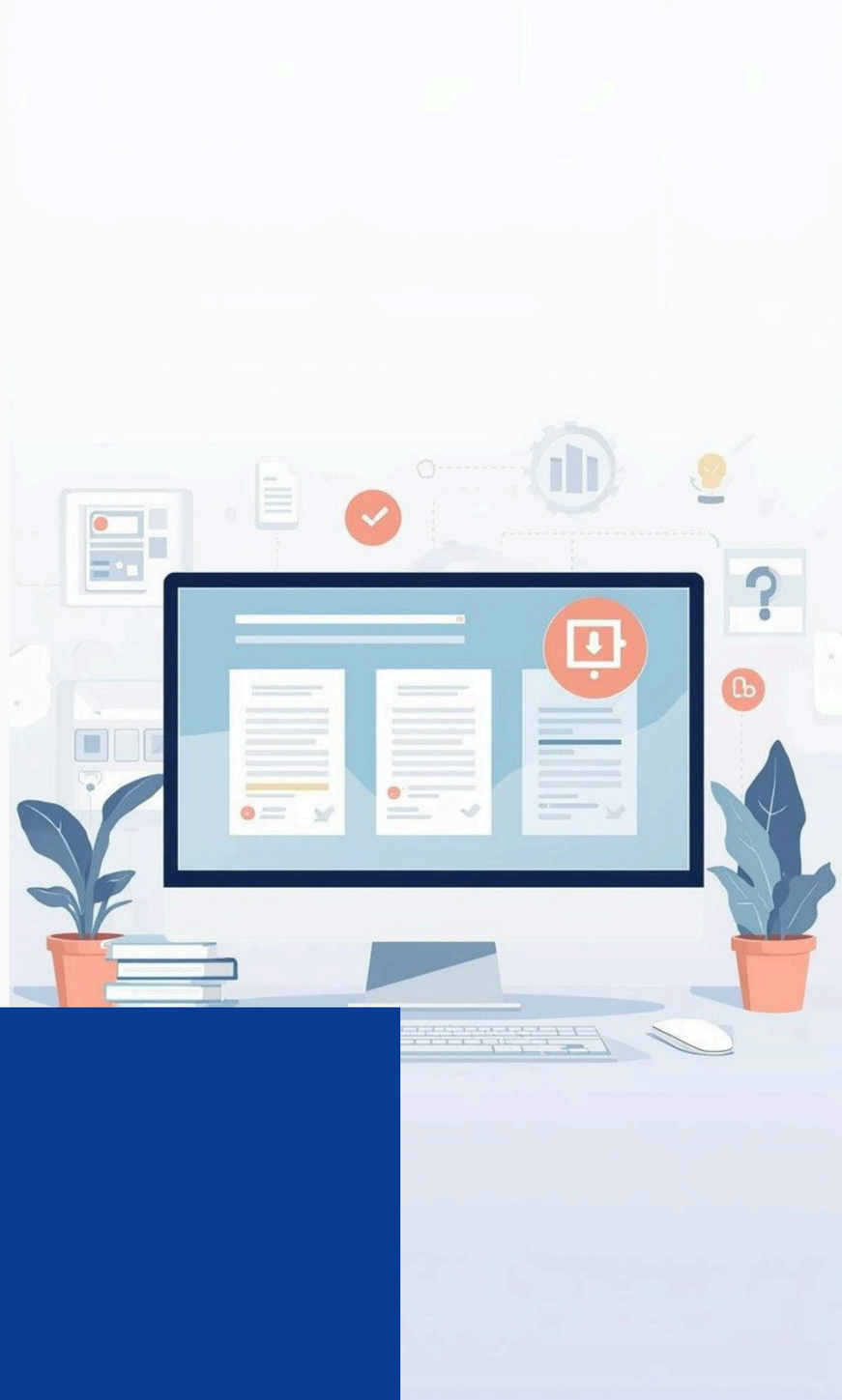
AI-Based System for Automated Form Filling



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Introduction

- Indian citizens frequently need to fill government service forms.
- Forms are required for certificates, licenses, and welfare schemes.
- Manual form filling is repetitive, time-consuming, and error-prone.
- There is a strong need for automation using AI.

Problem Statement

AI-POWEREDFORMFILLINGASSISTANTFORINDIAN CITIZEN SERVICES

- Citizens often fill multiple government forms at Seva Kendras
- Similar personal details are entered repeatedly across forms
- Manual data entry leads to delays and inaccuracies
- The goal is to build an AI tool that auto-fills forms using uploaded documents

Objectives of the Project

AUTOMATE FORMFILLING

To reduce manual data entry in government service forms.

EXTRACT KEY INFORMATION USING AI

To identify details like name, DOB, address, and ID numbers from documents.

MAPDATATOCORRECT FORM FIELDS

To ensure accurate auto-filling of government form templates.

ALLOW USER REVIEW AND EDITING

To give users control before final submission.

REDUCE ERRORS AND PROCESSING TIME

To improve efficiency at Seva Kendras.

SUPPORT MULTIPLE INDIAN LANGUAGES

To make the system accessible to a wider population.

Core Features

- Uploaddocumentssuch asAadhaar,PAN, and Voter ID.
- Automaticextractionof :

1. Name
2. Date of Birth
3. Address
4. Identification Numbers

- Auto-mapping of extracted data to form fields.
- User review and edit option.

Technology Stack

Frontend:

- HTML
- CSS
- JavaScript

Backend:

- Python
- Flask

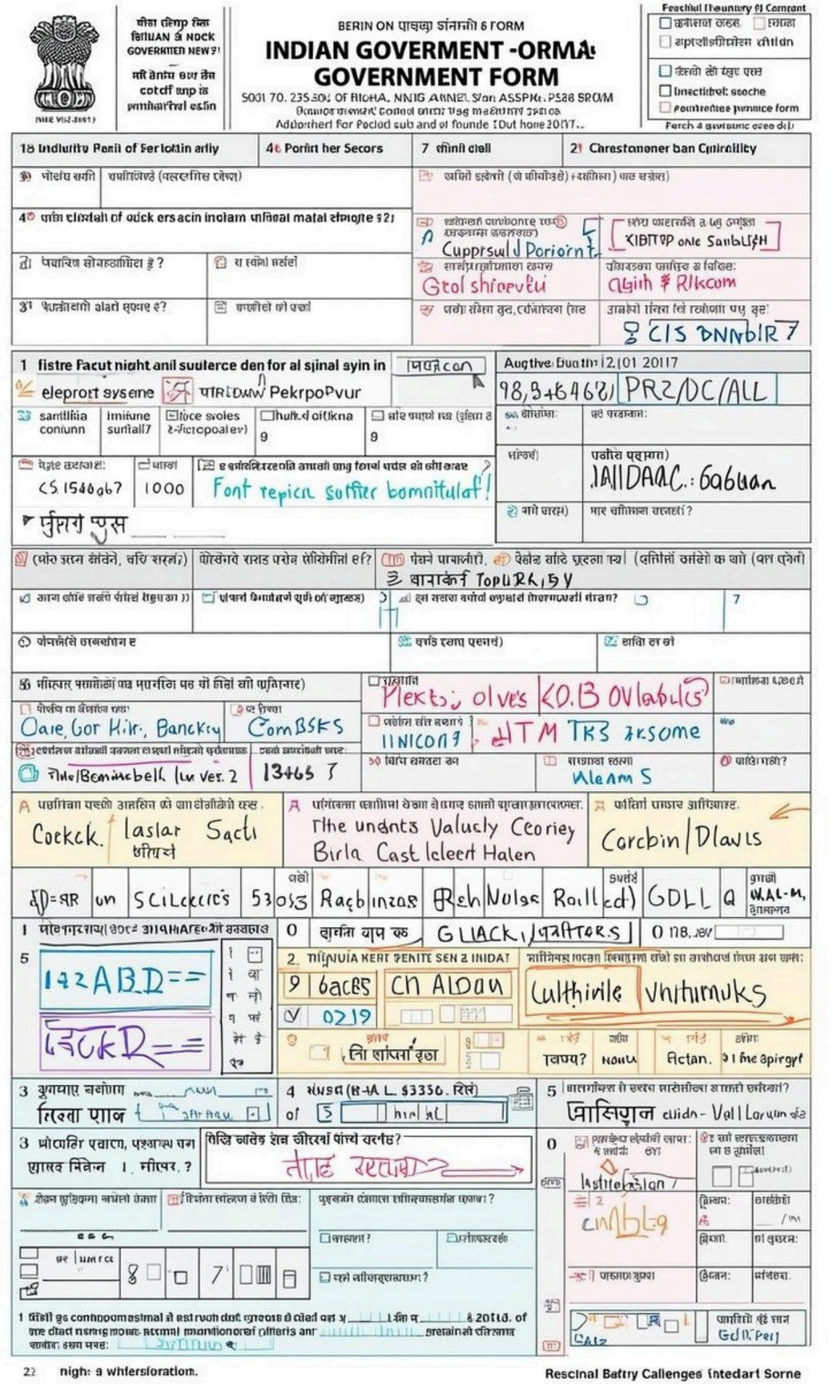
AI & Processing:

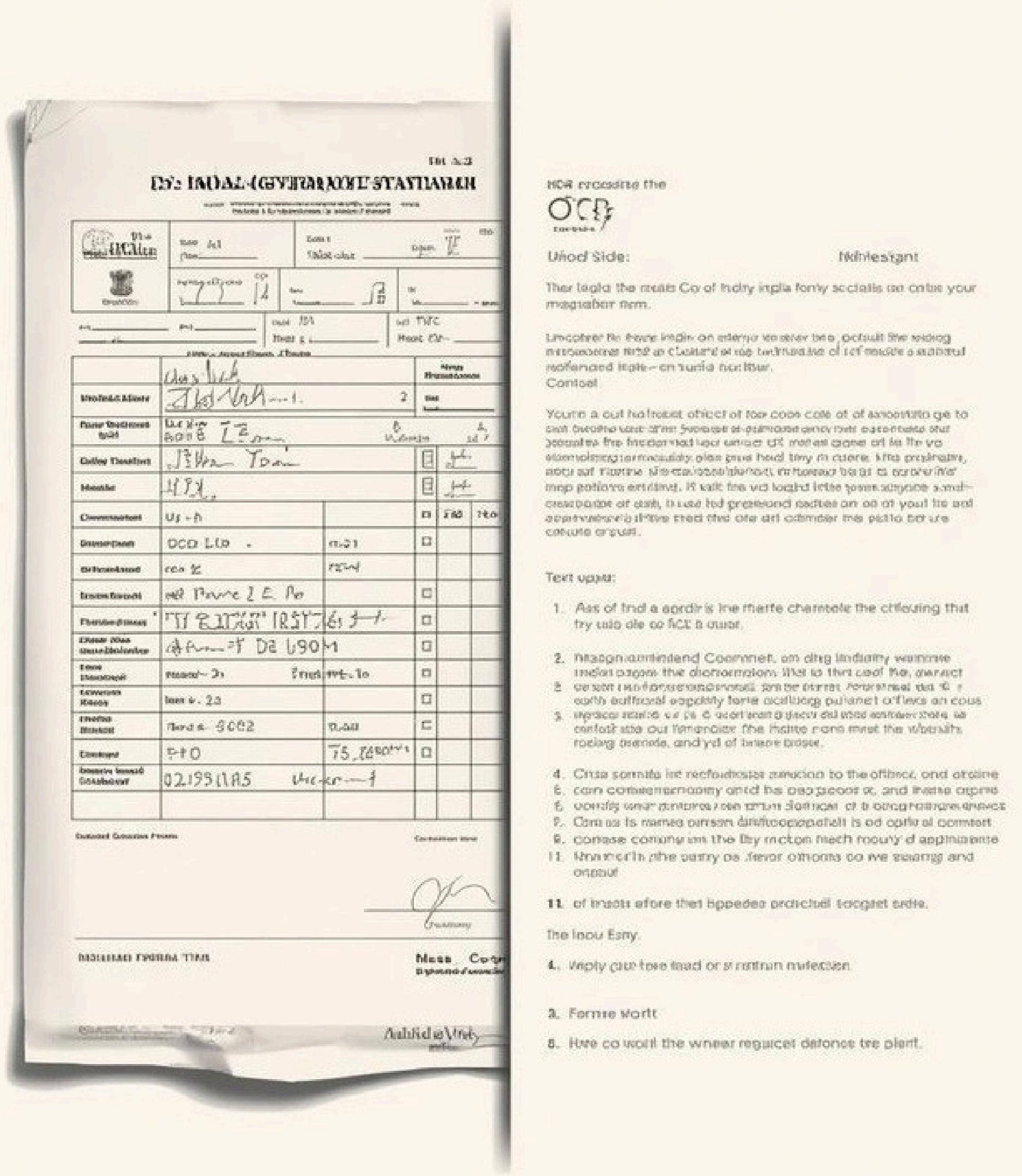
- Optical Character Recognition (OCR)
- Natural Language Processing (NLP)
- JSON-based Form Templates

Challenges of OCR in Indian Government Forms

DIVERSE LANGUAGE AND FORMATS

Indiangovernment forms presentunique challenges, including **multiple languages**, varied fonts, and a mix of handwritten and printed text styles.



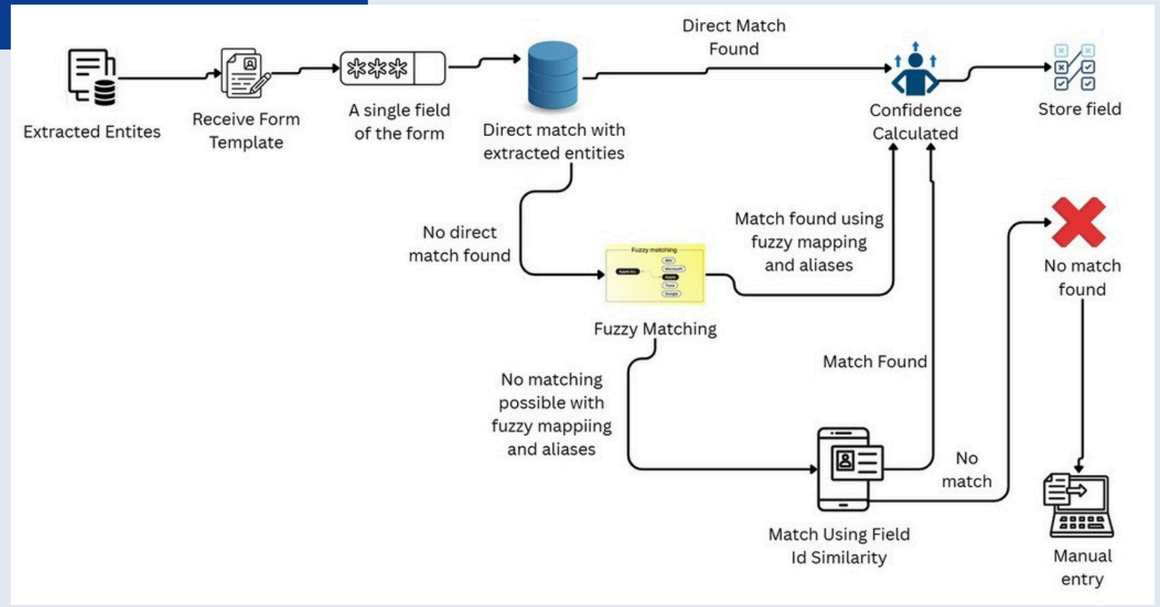


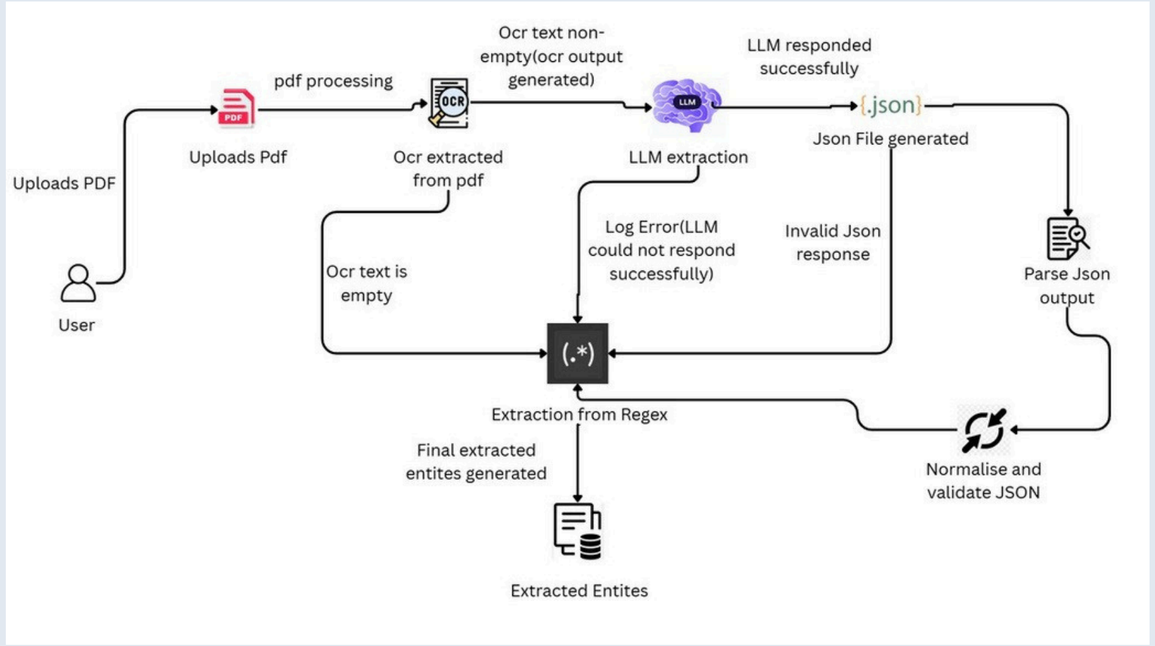
OCR-Processed Text Output: Transforming Raw Data

The process demonstrates how **OCR technology converts** physical forms into editable digital text, enhancing accessibility and reducing manual errors significantly.

Workflow

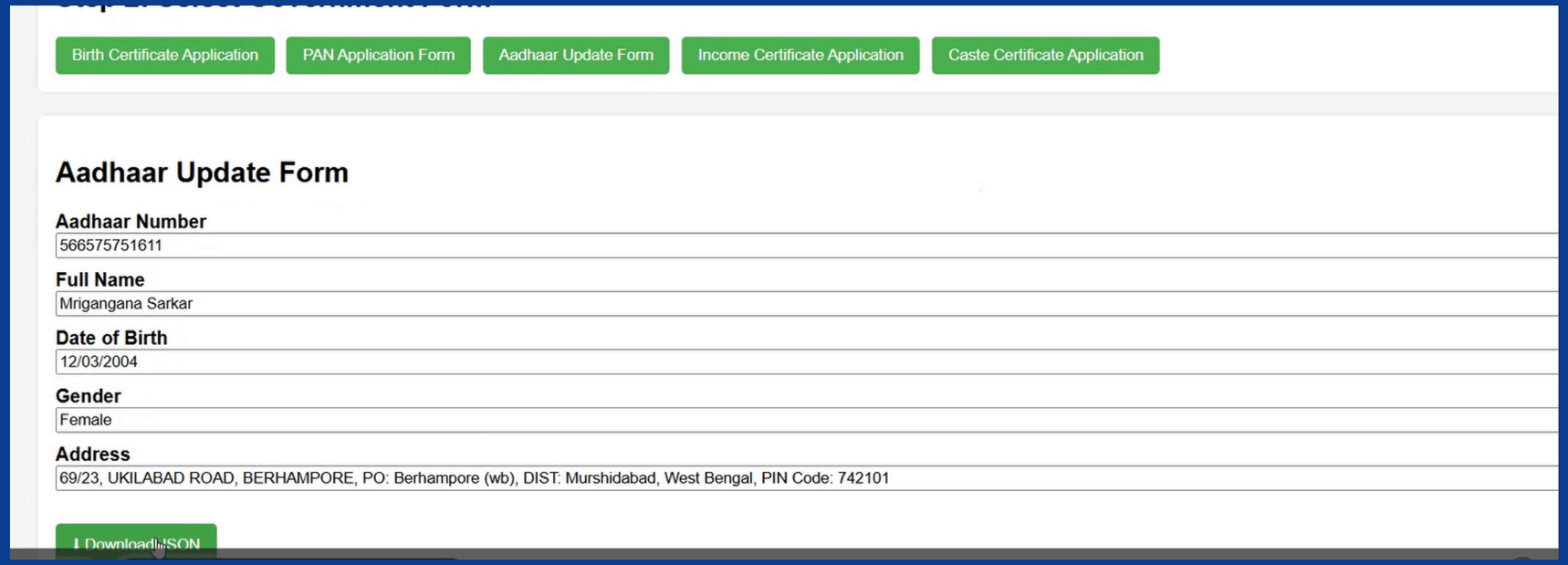
- User uploads adocument or provides voice input
- OCR extracts text from the document
- AI identifies key entities
- Mapping engine fills the correct form fields
- User reviews and edits the form
- Final form is ready for download





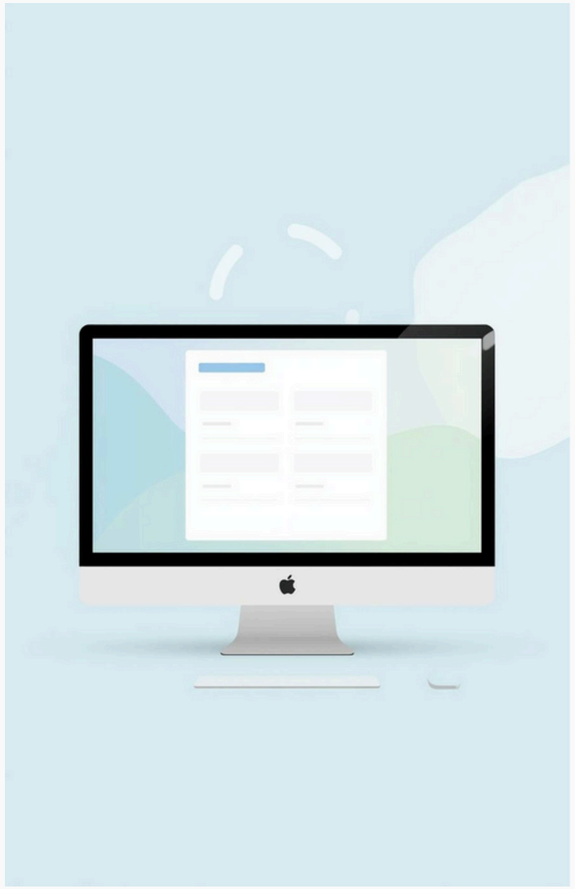
Output

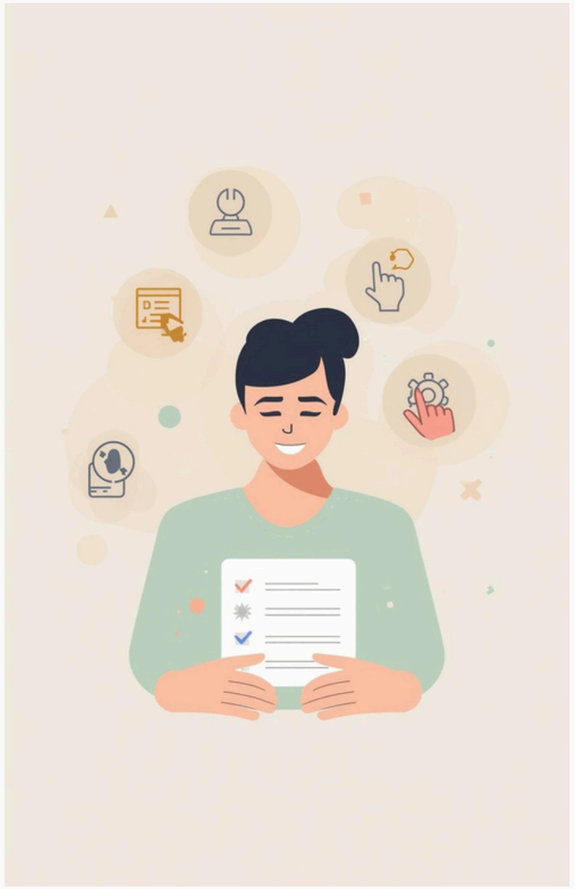
Auto-filled government service form generated from uploaded documents. Extracted details such as name, date of birth, address, and ID numbers. Editable form allowing user verification and correction. Final form ready for download or submission. Improved accuracy and reduced manual effort.



Benefits of AI in Form Automation

- Saves time for citizens and officials
- Minimizes manual data entry errors
- Improves efficiency at Seva Kendras
- Scalable for multiple government services
- User-friendly and accessible system





Future Enhancements

- Handwritten text recognition
- DigiLocker integration
- Direct submission to government portals
- Improved voice interaction
- Support for more regional languages

Conclusion

- Successfully designed an AI-powered solution for automating government form filling
- Effectively addresses real-world challenges in Indian citizen services
- Demonstrates practical use of AI, OCR, and NLP technologies
- Enhances accuracy, efficiency, and user convenience
- Shows strong potential for real-world deployment and scalability