

# Document AI

Using the DocuTranscribe tool, the client effectively addresses challenges in manual invoice processing by automating data extraction, enhancing work efficiency, and ensuring high accuracy in diverse invoice layouts. The solution streamlines operations, reducing manual labor, achieving cost savings, and providing businesses with centralized, easily accessible digitized invoice data, thereby solving key issues related to efficiency, accuracy, and data management.



**Enterprise** Industry

## Abstract

The SaaS-based product is an AI-driven invoice extraction tool expanding to include resume and ID parsing. Its focus is on digitizing softcopy invoice data for centralized storage, aiming to reduce manual effort, enhance work efficiency, and streamline data extraction from digital invoices for businesses.

## Problem Statement

The current manual processing of invoices poses significant challenges in terms of time consumption, manual labor, and efficiency for businesses. Extracting crucial information from invoices is a labor-intensive process prone to errors and inefficiencies. Additionally, the absence of a centralized system for storing digitized softcopy invoice data further complicates data management. Recognizing these challenges, there is a pressing need for an advanced solution. Our SaaS-based product, an AI-driven invoice data extraction tool, addresses these issues by automating the extraction process, digitizing invoice data, and offering centralized storage. This tool is designed to reduce manual effort, enhance work efficiency, and streamline the extraction of valuable data from digital invoices, presenting a comprehensive solution to the existing problems in invoice processing for businesses.

## Technologies Used

Frontend, Backend, FullStack, QA, DevOps, AI/ML

## Benefits Delivered

- **Enhanced Efficiency:** The streamlined extraction process, supported by state-of-the-art OCR, NLP techniques, and adaptable models, has significantly improved efficiency. Automation reduces manual effort, allowing businesses to process invoices swiftly and allocate resources to more strategic tasks.
- **Accuracy and Adaptability:** Achieving a 95% layout-independent extraction accuracy and a minimum of 90% accuracy in diverse formats ensures precise data extraction. The tool's adaptability to unconventional layouts and unstructured data contributes to accurate and reliable results.
- **Cost Savings:** Reduction in manual labor and increased efficiency directly translates to cost savings for businesses. With automated data extraction and streamlined processes, the tool minimizes the need for extensive manual intervention, leading to cost-effective operations.
- **Improved Data Accessibility:** Centralized storage of digitized invoice data facilitates easy access and retrieval. Businesses can quickly locate and utilize valuable information, contributing to better decision-making processes and overall operational transparency.
- **Scalability and Future-Readiness:** Designed with scalability in mind, the tool accommodates growing volumes of processed invoices without compromising performance. This scalability ensures that the solution is future-ready, capable of handling increased data loads as businesses expand.



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## Aspire Solutions

### 1. Invoice Format Variability:

**Solution:** Utilized OCR and NLP techniques to achieve layout-independent extraction, reaching 95% accuracy in handling diverse invoice layouts. Employed adaptable methods that aren't reliant on specific formats.

### 2. Unstructured Data Handling:

**Approach:** Implemented state-of-the-art OCR for initial raw data extraction from invoices. Employed NLP techniques for data preprocessing, enhancing the tool's capability to handle unstructured data effectively.

### 3. AI model Prediction Accuracy:

**Strategy:** Prioritized the development phase by building robust models. Targeted a minimum accuracy of 90% to extract data from invoices, including unconventional formats, ensuring adaptability and accuracy beyond standard layouts.

### 4. Integration with Existing Systems:

**Method:** Focused on developing flexible integration modules to seamlessly connect with diverse existing systems. Emphasized customization to align with various software environments, enhancing integration efficiency.

### 5. Scalability Enhancement:

**Initiative:** Designed the tool with scalability in mind, leveraging scalable infrastructure and optimizing processing capabilities. Ensured smooth handling of increasing invoice volumes without compromising performance.

## Challenges & Limitations

**1. Layouts(formats) of Invoice:** One major challenge is the layout independent tool for invoice formats across different industries. Invoices can differ significantly in layout, structure, and content, making it complex to create a one-size-fits-all extraction solution.

**2. Dealing with unstructured data:** Within invoices, such as handwritten notes or unconventional formatting, poses a limitation. The tool may face difficulties accurately extracting information from non-standardized or less structured invoice documents.

**3. Achieving high accuracy in AI predictions:** Especially with nuanced information in invoices, is a continuous challenge. Misinterpretations or inaccuracies in the extraction process may occur, requiring constant refinement of the AI models.

**4. Security and Compliance Concerns:** Ensuring the security and compliance of sensitive invoice data during extraction, storage, and processing is critical. Addressing privacy concerns, data protection regulations, and implementing robust security measures are ongoing challenges.


**5. Scalability Issues:** As the volume of processed invoices increases, scalability becomes a potential limitation. Ensuring the tool can efficiently handle a growing number of transactions without compromising performance is a key consideration for its long-term effectiveness.



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