Enabling data extraction from unstructured documents for a healthcare management application

Implementing OCR technology to deliver effective patient care

Our customer aims to build a system in their app's internal interface that enables physicians to swiftly analyze patients' health records (unstructured data) to deliver effective care.

Meet our customer

Our client provides a comprehensive obesity treatment program that aims to change the traditional approach to treating obesity. They are committed to empowering physicians with advanced tech-enabled tools, including virtual care platforms that offer telehealth, clinical decision support, remote patient monitoring, online education tools, and personalized medical treatment plans tailored to each patient's unique needs.

Business Challenges:

- The physicians encountered challenges in handling and analyzing unstructured patient documents in the obesity management app, including lab reports from multiple vendors.
- Manually extracting and interpreting crucial patient data from the PDF documents was time-consuming and human intensive, impacting operational efficiency.
- The inability to view historical patient records in a unified view hindered providers' (physicians) ability to track trends in patients' health indicators.
- They encountered data integrity issues in maintaining accurate patient health records in their database.

Zuci's Unique Approach to Extracting Unstructured Data:

- We employed AWS Textract for efficient text extraction from unstructured patient documents stored in their internal system.
- We developed a custom solution using AWS services to identify and rectify anomalies/missing values in extracted patients' data.
- We adopted a cloud-agnostic approach in this implementation, easing future migration to other cloud services with minimal manual intervention.

- Our custom algorithm facilitated the transmission of missing values in the extracted patient data to the error log system. These logs temporarily stored the missing or error data marked as exception.
- We seamlessly enabled their administrators to access error logs and update patient records within the Electronic Health Record (EHR) system.
- We integrated verified patient data into their database to provide a single view of patient data for comprehensive analysis. This system enabled them to store their patient data in tabular formats, which eased their data analytics process and helped seamlessly provide better care to patients.

The Results We Achieved:

- Improved visibility into patient history enabled healthcare providers to analyze trends efficiently for more informed decision-making.
- Simplified access to patient data facilitated medication recommendations based on comprehensive insights. We also enabled leveraging historical data for recommendation algorithms to devise healthcare recommendations for new patients based on their vitals such as body weight, WBC and RBC count.
- Implemented a robust patient duplication elimination process, reduced administrative overhead, and ensured data integrity within patient records.

Tech Stack

Amazon Textract

Want to create robust insights of your organization's data across platforms?

Get in touch with Zuci Systems.

30-min free consultation →

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