

AI TRANSFORMATION TALES

Revolutionize Risk Management with Intelligent Document Processing



BACKGROUND

A leading global provider of comprehensive risk management solutions, operating in the auto, lifestyle, and housing protection sectors, faced a significant challenge in efficiently processing a diverse range of insurance policy documents. The manual extraction of critical data from these documents was time-consuming, error-prone, and hindered their ability to deliver prompt and accurate services to their clients. The client approached Aspire with the objective of designing an AI-powered Document Extraction Engine, leveraging Azure Document Intelligence, Generative AI and prompt engineering. The primary objective was to:

- Create a flexible and intelligent system that could adapt to the diverse templates, layouts, and formats of insurance policy documents, including both electronic and scanned PDFs
- Ensure precise entity extraction from tables and selection marks further complicated the task
- Reduce the manual workload associated with annotating a wide variety of documents.

By combining the power of Azure Document Intelligence and Gen AI, our goal was to build a robust data extraction engine capable of keeping pace with the dynamic nature of insurance policy documents. This required advanced pattern recognition, data extraction techniques and the ability to process structured and unstructured data with precision.



THE SOLUTION

First things first, the client highlighted the importance of addressing the challenges of document diversity and complex data extraction. The combined capabilities of Azure Document Intelligence and Generative AI helped our experts build an intuitive and flexible Document Extraction Engine.

Here are the highlighted areas of our transformative collaboration:

Precise Data Extraction with Azure Document Intelligence

Azure Document Intelligence played a pivotal role in ensuring precise data extraction from insurance policy documents. This technology facilitated the accurate extraction of table data, selection marks, and entities presented as key-value pairs. By understanding the structural nuances of the documents, Azure Document Intelligence provided structured outputs, enhancing data accuracy and consistency.

Overcoming Layout Challenges with Gen AI

To surmount the disparate layouts and unstructured data within the documents, we leveraged the advanced capabilities of the GPT-4 model. The model's ability to understand contextual relationships and patterns ensured high accuracy, even with the client's diverse document structures.

Adaptability through Prompt Engineering

Our experts employed prompt engineering techniques to ensure the system's adaptability and reduce the need for extensive retraining. This innovative approach allowed the engine to quickly adjust to new document formats, ensuring continuous and efficient data extraction. By providing specific instructions or prompts, the engine could dynamically interpret and extract data from previously unseen formats.



TECHNOLOGY SNAPSHOT

- Python
- Framework – Django/Python

TOOLS:

- Azure OpenAI (GPT-4)
- Azure Form Recognizer



BUSINESS BENEFITS

- High precision for any type of policy document, regardless of its template/formats, even for the new ones in future
- Accelerates the integration of new document types, enhancing adaptability and turnaround



Aspire Systems is a global technology services firm serving as a trusted technology partner for our customers. We work with some of the world's most innovative enterprises and independent software vendors, helping them leverage technology and outsourcing in our specific areas of expertise. Our core philosophy of "Attention. Always." communicates our belief in lavishing care and attention on our customer and employees.

For more info contact: info@aspire.com or visit www.aspiresys.com

USA
+ 1 630 368 0970

SINGAPORE
+65 3163 3050

INDIA
+91 44 6740 4000

BELGIUM
+ 32 3 204 1942

NETHERLANDS
+ 31 (0)30 800 92 16

POLAND
+48 58 732 77 71

MEXICO
+52 222 980 0115