CASE STUDY

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USING AI TO EXTRACT INSIGHT FROM FINANCIAL DOCUMENTS

About Funds-Axis:

Funds-Axis is an investment management regulatory technology software company. Their focus is on simplifying risk, compliance and regulatory reporting challenges for investment managers and depositaries. The goal of this project was to extract key entities from readily available financial documents using Machine Vision and Natural Language Processing (NLP). The initial work was carried out using Key Investor Information Documents (KIIDs).

The challenge:

Our challenge was to turn human-readable documents into machine-readable insights, thus enabling better analysis, pattern recognition and decision-making and reducing the human effort required to carry out document review. In addition to saving time and improving efficiency, this also creates an opportunity to derive additional insight that may be difficult to discern by traditional means through uncovering patterns with Advanced Analytics and Machine Learning.

The solution:

Our goal was to develop a simple web-based hosted application that enables the end-user to batch drop PDF KIIDs into the Web App. The Web App then automatically extracts a set of chosen entities from the documents and then formats this information and stores it in a searchable manner.

In order to meet this challenge, we used a combination of readily available Cloud Services combined with bespoke analysis. As most of the information in the document was text-based, this required the use of NLP; however, some of the information regarding risk was also represented graphically and as such, this required the use of Machine Vision to convert this to a useful numerical value.

The technology:

- Amazon Web Services (AWS) Textract to convert PDFs into machine-readable structured data
- Bespoke NLP models to extract key entities and information
- Bespoke Machine Vision models to extract Risk Rating
- All the extracted information was passed into a database to enable searching and analysis of the data

Benefits:

High throughput processing and knowledge extraction: We developed an application that has the ability to extract all key information from PDF documents rapidly and at scale. Hundreds of documents can be processed in the time it would take a human to read just one.

Searchable, analysable data: All entities extracted are stored in a database enabling searchability and analysis of trends and patterns in data. The extracted knowledge is now centralised and accessible to everyone in the organisation whenever it is needed.

Standalone hosted solution: Delivered to the client as astandalone managed solution enabling full use of the AWS tech stack along with bespoke models with no barrier to usage.

Cost savings: Through automation of otherwise repetitive monotonous manual processes, the solution offers immediate returns on investment, as well improving accuracy and reducing opportunity for human error.

Whilst this case study focuses on KIIDS, it is easy to see how this can be directly replicated across any form of documentation, for example; contracts, policies, reports, proposals, quotes, invoices, etc. The ability to turn documents into usable data that can be queried and analysed opens a wide range of opportunities to derive greater business value.

"We approached Kainos with the idea of using AI to automatically extract the information we needed from KIIDs. Kainos' AI team had fantastic experience with document analysis and NLP and they delivered the project perfectly!"

Darren Burrows, Founder and CEO, Funds-Axis