Our Deployed Solutions and Case Studies

Search by Industry

View All

Transaction Classifier

Client Objective

To classify any given transaction as 'eligible' or 'ineligible' for a tax refund, based on the clauses specified in the designated tax regulation section.

Challenges

The tax regulation section encompasses numerous exception rules, alongside the standard rules, that determine the eligibility of a transaction for a tax refund. The nature of a transaction depends on the vendor name, buyer description, and the transaction description. Additionally, the frequent occurrence of misspellings on invoices poses a challenge to accurately interpreting the correct meaning of a transaction.

Our Approach

We have developed a classifier that is capable of interpreting the correct meaning of a transaction accurately. This classifier categorizes each transaction as either eligible or ineligible, providing explanations that include the specific sub-sections under which a transaction is assigned an eligible or ineligible status.

Technologies Used

GPT4 APIs, LangChain, Prompt Engineering, Semantic Search.

Outcome

We were able to successfully classify the transaction for tax refund with over 90 percent accuracy and with correct reasoning.

Automated Invoice Classifier

Client Objective

Extracting valuable information from invoices to enhance commercial truck advertisements automatically.

Challenges

Manual and repetitive nature of the invoice analysis not only consumed time but also was prone to human errors.

Our Approach

Adopted a suite of AWS tools and services, including Textract for extracting text and data from invoices, Comprehend for natural language processing, SageMaker for machine learning, and GroundTruth for labeling data. Python was used to create custom automation scripts. This automated the extraction and analysis of data from invoices.

Technologies Used

AWS Tech Stack (Textract, Comprehend, SageMaker), GroundTruth), Python.

Outcome

The automation not only streamlined the invoice analysis process but also significantly minimized the potential for human errors. ultimately improving the efficiency and accuracy of the commercial truck ad enrichment process.

Digital catalog builder

Client Objective

Create and manage a comprehensive, updated and accurate database of automobiles.

Challenges

Data gathering from a vast number of OEM websites demanded a robust, efficient, and cost-effective approach to obtain and organize data without compromising quality.

Our Approach

We used Python to automate the data collection process, streamline data extraction and reduce human error. We manually scrapped data ensuring no valuable information was missed. In-house scripts were developed that continuously monitored changes in the OEM websites, enabling us to keep the database up-to-date and accurate.

Technologies Used

Python Scripting, Data Engineering, PHP Development.

Outcome

We now have the capability to process data from approximately three times the number of OEMs compared to our initial capacity. This was a very cost-effective approach. The client now possesses a robust, up-to-date digital catalog of automobiles.

Auto Agents for Lawyers

Client Objective

A comprehensive solution for legal professionals to streamline the process of legal judgment prediction for litigations.

Challenges

To efficiently process the vast amount of legal data, identify crucial information, and produce meaningful arguments. Also, predicting the probability of a case's win or loss based on the arguments is a challenging task.

Our Approach

We used GPT-4 APIs, to understand and process legal documents. LangChain was used to establish a secure and efficient blockchain-based platform for managing and verifying the integrity of legal data. Agents, built using advanced AI, were trained to semantically search for information within legal documents, summarize the content, and highlight key terms.

Technologies Used

GPT4 APIs, LangChain, Agents, Prompt Engineering, Semantic Search.

Outcome

Our solution not only facilitates the extraction and summarization of legal information but also automates the process of constructing persuasive arguments for a legal case. It provides lawyers with a probability prediction for the success of a litigation, aiding in decision-making and strategy development.

Automated Support System

Client Objective

To streamline and expedite the customer support process.

Challenges

Customer support teams were overwhelmed with a large volume of tickets. Also, manual ticket categorization and assignment were time-consuming and error prone.

Our Approach

We leveraged open-source software to build a customer ticketing solution that allowed for better tracking and visibility of customer issues and ensured that no query was left unattended. Integrated ML into the platform to automate the categorization and assignment of tickets to the most appropriate customer service agent.

Technologies Used

Python Scripting, Data Engineering, PHP Development.

Outcome

The turnaround time for customer queries was reduced by a

remarkable 60%. This led to higher customer satisfaction levels and more efficient customer support operations.

AI Curriculam Builder

Client Objective

Creation of a ChatGPT plugin to empower customers with the ability to explore and search for information across a diverse range of topics

Challenges

Implement a seamless user verification process and create a payment gateway for users to access premium content.

Our Approach

We implemented a robust authentication process for customer verification. Once verified, customers gained access to a wide range of topics they could search. The search included different pages of content, paragraphs, activity matrices, and multiple-choice questions (MCQs) to assess the user's knowledge. We also developed a secure payment gateway (and integrated with Stripe) so that users can purchase tokens to unlock additional content and features.

Technologies Used

GPT-3, Langchain, Stripe, FastAPI, Python, and MySQL.

Outcome

The Conversational chatbot offers users the ability to find comprehensive solutions to their desired problem statements. The results generated by the bot are extensive, typically spanning 20-30 pages. This solution has quickly become one of the most widely used platforms, known for its high accuracy and the ability to deliver in-depth results in record time.

Valuation Report Generator

Client Objective

Estimate the accurate valuation of the car dealership by creating a report that factors in all the relevant KPI.

Challenges

Generating valuation of car dealership, which is a factor of numerous parameters like sales data, financial metrics, technical KPIs etc.; in an easy-to-consume format

Our Approach

Defined a comprehensive set of rules and KPIs that are crucial in determining the value of dealership. These rules encompassed various aspects such as historical sales data, market trends, technical indicators and financial health. We also created a sample paragraph that serves as the foundation of the valuation report which was created with information extracted from the

dealership's data, ensuring that the generated report is highly descriptive and informative.

Technologies Used

OpenAI, LangChain, PandasAI, Matplotlib Agent.

Outcome

Enhanced the valuation process, making it more accurate, efficient, and informative.

Local Databricks Deployment

Client Objective

Enhance the experience by assisting individuals in making informed purchasing decisions based on product reviews. find a cost-effective and efficient method for product analysis and key data extraction.

Challenges

Extracting key value pairs from unstructured raw data proved to be a complex and resource-intensive task. Also, the cost associated with GPT3.5 for product analysis was a roadblock.

Our Approach

We deployed Dolly, a language model, and fine-tuned it using dataset with the assistance of the transformers library. This transition to Dolly significantly reduced the cost of operations while maintaining high accuracy in product analysis and key data extraction.

Technologies Used

GPT4 APIs, LangChain, Agents, Prompt Engineering, Semantic Search, Databricks Dolly, Huggingface Transformers.

Outcome

Our team achieved an impressive 92% accuracy rate by implementing and fine-tuning Dolly, surpassing GPT3.5's performance. This transition led to substantial cost savings by reducing OpenAI API usage. It enhanced cost-efficiency and continued to provide high-quality product reviews and value extraction for informed purchasing decisions.

FAQ & QnA Generator

Client Objective

To provide valuable assistance to potential customers by offering them detailed insights and information to aid their shopping decisions.

Challenges

Analyze and extract meaningful content from Amazon product reviews and then transform this data into a structured and consumable format.

Our Approach

Databricks Dolly assisted us in efficiently managing and processing the large volumes of data contained within Amazon product reviews. We used Huggingface Transformers, a powerful natural language processing framework, to extract, summarize, and structure the information from these reviews. We generated comprehensive set of FAQs based on the content of reviews and their corresponding answers.

Technologies Used

OpenAI, LangChain, PandasAI, Matplotlib Agent, LLM, Prompt Engineering.

Outcome

By using the generated FAQs and QnAs, potential buyers can easily obtain essential information about products they are interested in. This simplified the decision-making process and also enhanced the overall shopping experience by providing clear and concise information derived from real user reviews.

Product Detail Page Generator

Client Objective

Enhance the customer's experience by creating a comprehensive and informative description of the product while providing attribute-specific details.

Challenges

Manual extraction of product reviews was a time-consuming and subjective process

Our Approach

Deployed a pre-trained model capable of generating key features, including pros and cons of products. This model improved the efficiency of the review extraction process. We also deployed a trained GPT using Prompt Engineering techniques to provide attribute-specific details for each product, further enriching the content on the product detail pages.

Technologies Used

OpenAI, Semantic Search, HuggingFace , BERT/ BART/ Pegasus, Transformer.

Outcome

Customers can make informed decisions when considering whether to purchase a product or not? The enhanced product descriptions and attribute-wise information ensured a better shopping experience and increased customer satisfaction.

Specification

Client Objective

Enhancing product search and evaluation by generating a well-

Extraction

structured and meaningful product description; thereby improving online buying experience.

Challenges

Product descriptions provided by manufacturers has a mix of text, images, and various data formats, making it challenging for customers to evaluate products based on unstructured descriptions.

Our Approach

We employed advanced natural language processing techniques (a trained GPT model) which analyzed and extracted key value pairs from the unstructured dataset. The key value pairs extracted by the model can be used by customers in their product searches.

Technologies Used

OpenAI GPT4, Dolly v2, Selenium, Deepspeed, Cuda, LabelStudio, Transformer, Langchain.

Outcome

This helped achieve uniformity in the description of products. Customers can easily filter and refine their searches based on specific product attributes, features and specifications; making the online shopping experience more efficient and tailored to their needs.

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