

AUTOMATED TRANSACTION-MERCHANT CATEGORIZATION

• Overview

CreditFins is the MENA region's pioneering platform for credit card management. The platform optimizes credit card usage, reduces expenses, maximizes rewards, and enhances financial literacy for its users. With a mission to empower customers with valuable insights into their spending patterns and potential savings, CreditFins needed a reliable, scalable AI solution to streamline and enhance its operations. We automated the complex process of transaction-merchant categorization by developing a Generative AI solution, enabling CreditFins with financial data that is clean, structured and accurately mapped.

• Customer

CreditFins, MENA

Country: MENA Region

Industry: B2B & B2C

Customer Size: 1000+

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• Problem Statement

CreditFins faced a significant challenge in processing and categorizing large volumes of transaction data and merchant information stored in CSV format. The manual matching of transactions to their respective merchants was not only time-consuming but also prone to errors, impacting the platform's ability to offer timely and accurate financial insights to its users. With over 100,000 financial documents (including transaction records and merchant records), automating this process was essential for CreditFins to scale its operations and improve the accuracy of its credit card management services.

• Technical Solution

To address CreditFins' needs, we developed an AI-powered system using ChatGPT-4o-mini, LangChain, and custom algorithms. Our approach involved extracting and cleaning merchant information from transaction data by iterating through the records row by row. The system leveraged Natural Language Processing (NLP) techniques to match transactions with corresponding merchant details in real-time. We further refined the AI-generated outputs by implementing custom algorithms that cross-checked the matched data against existing records to ensure accuracy.

We utilized Python, Pandas, OpenAI GPT4o-mini, Qdrant, HuggingFace embeddings, and Sentence Transformers to develop the solution. The entire process was containerized using Docker for scalability and deployed on CreditFins' platform. The clean and structured data was then prepared for integration into CreditFins' credit card management system, allowing the platform to provide personalized recommendations and assistance to its users.

• Results

Our AI-driven transaction-merchant categorization system significantly enhanced CreditFins' operational efficiency. By automating the categorization process, we enabled CreditFins to shift its focus toward delivering more value to customers, helping them maximize credit card utilization and improve their financial health. The system effectively handled over 100,000 financial documents, providing clean and accurately mapped transaction data. Client feedback confirmed that the solution met expectations, resulting in improved customer satisfaction and enhanced platform capabilities. The success of this project solidified CreditFins' position as a leader in fintech innovation within the MENA region.

• Technologies

- Pandas
- Python
- Qdrant
- Sentence Transformers
- Docker
- LangChain
- Gradio
- Github
- PyCSV
- OpenAI GPT4o-mini
- HuggingFace Embeddings

• Domains

- Generative AI
- Natural Language Processing (NLP)
- Retrieval Augmented Generation (RAG)