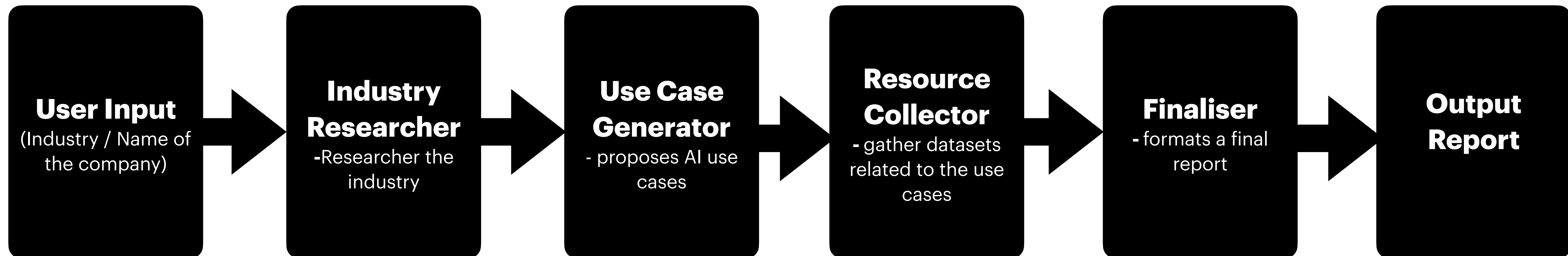# Market Research and Use Case Generation Agent

Introduction

- This report outlines the implementation of a research methodology using AI agents to analyse a specified company or industry and generate actionable AI use cases. The goal of this project is to leverage AI technologies to facilitate comprehensive market research and propose relevant AI and ML applications that can enhance operational efficiency and customer satisfaction for the company in question.

Methodology

- The methodology consists of four main components, each handled by dedicated AI agents. The implementation is built using the CrewAI framework along with tools for data collection and processing.

- Set up a sequential crew using the following agents and its respective tasks.

User Input
(Industry / Name of the company)

→

Industry Researcher
-Researcher the industry

→

Use Case Generator
- proposes AI use cases

→

Resource Collector
- gather datasets related to the use cases

→

Finaliser
- formats a final report

→

Output Report

Agents

Industry Researcher

- Conducting a comprehensive analysis of the specified company.

- Understanding the industry domain (e.g., Finance, Banking).

- Identifying key offerings and strategic focus areas.

- Analyzing industry trends and conducting competitor analysis.

- Uses tools like SerperDevTool to search for data on the web browser. ScapeWebsiteTool was used to scrape data from the websites.

Use Case Generator

- analyses the data collected and proposes relevant AI and ML use cases.

- Identifying practical applications of AI

- Ensuring that proposed use cases enhance operational efficiency and customer satisfaction.

Resource Collector

- gathers datasets and resources relevant to the proposed use cases from platforms like Kaggle and GitHub.

- ensures that the use cases are supported by real-world data and resources.

Finaliser

- compiles the research findings, proposed use cases, and resource links into a cohesive report.

- lists down the top use cases that can be delivered to the customer.

- adds references through which uses cases are suggested.

Implementation

- Environment setup : Load environment variables for API keys using dotenv file.

- Initialise tools and agents

- Initialise the LLM : AzureOpenAI

- Kick off the crew , passing the industry / name of the company as input to execute the tasks sequentially.

Result

- Report of a detailed analysis of the industry

- Identification of AI / ML use cases relevant to the industry.

- Compiled resources , including links to the datasets from Github, Huggingface and Kaggle.

Conclusion

- The project demonstrates the effectiveness of using AI agents for industry research and the generation of actionable insights. By leveraging structured tasks and agents, organizations can streamline the process of identifying opportunities for AI application.