

Market Research & Use Case Generation Agent Report

Shobhit Kumar

January 10, 2025

Table of Contents

Table of Contents	2
1 Introduction	3
2 Methodology	3
2.1 System Architecture	3
2.2 Workflow	3
3 Implementation	4
3.1 Spyder CLI Version	4
3.2 Streamlit Web App	4
4 Results	4
4.1 AI Use Cases Identified	4
4.2 Generated Report	5
5 Conclusion & Future Work	5
5.1 Achievements	5
5.2 Future Improvements	5

1 Introduction

This report describes the implementation of an **AI & GenAI Use Case Research System**, developed to:

- Analyze **AI trends** in a given industry.
- Identify **AI use cases** for a specific company.
- Find relevant **datasets** to support AI implementation.
- Generate a structured **Excel report**.

The system is implemented in two versions:

1. **Spyder CLI Version** - Command-line based.
2. **Streamlit Web App** - Interactive web-based solution.

2 Methodology

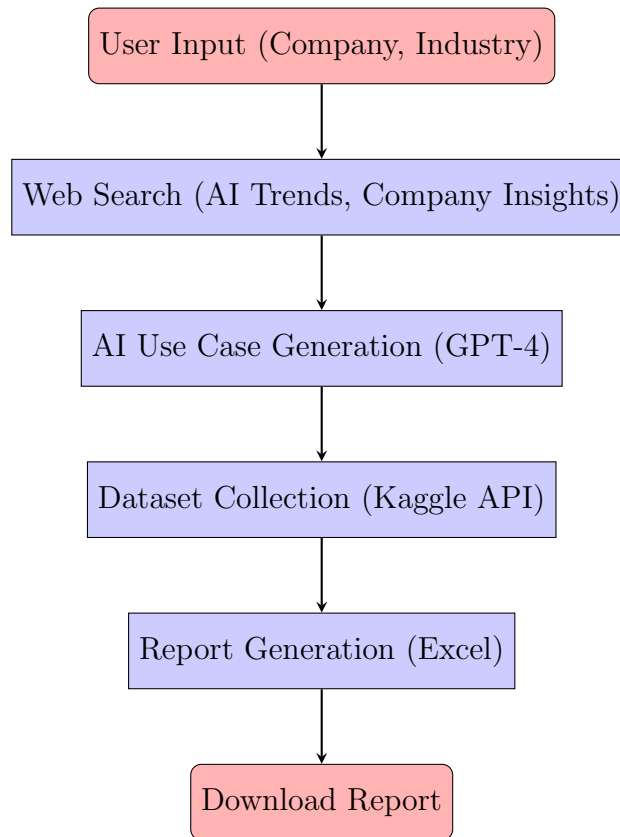
2.1 System Architecture

The system follows a **multi-agent architecture** with four key components:

1. **Research Agent** (Web Scraper) - Fetches **industry trends** and **company AI strategies**.
2. **AI Use Case Generator** (GPT-4) - Suggests **AI applications**.
3. **AI Dataset Collector** (Kaggle API) - Finds **relevant datasets**.
4. **Report Generator** (Excel) - Formats findings into a **structured report**.

2.2 Workflow

The workflow of the system is illustrated below:



3 Implementation

3.1 Spyder CLI Version

- Runs as a **command-line script**. - Uses `input()` to accept user data. - Saves output as an **Excel report**.

3.2 Streamlit Web App

- Provides a **graphical UI**. - Accepts user input through a **text box**. - Generates an interactive **downloadable report**.

4 Results

4.1 AI Use Cases Identified

The following AI use cases were identified for **Infosys (IT Industry)**:

Use Case	Description	Dataset
IT Operations Enhancement	Use AI to monitor system environments and prevent failures.	Dataset 1 , Dataset 2
Personalized Customer Experience	AI-driven analytics for customer personalization.	Dataset 1 , Dataset 2
Automating Customer Service	AI chatbots and virtual assistants for customer support.	Dataset 1
Forecasting and Decision Making	AI for trend analysis and market prediction.	Dataset 1 , Dataset 2
Cybersecurity	AI-driven threat detection and prevention.	Dataset 1
Efficient Resource Allocation	AI-based demand forecasting and scheduling optimization.	Dataset 1
AI in HR	Automating HR processes like resume screening.	Dataset 1

4.2 Generated Report

The system successfully produced an **Excel report** with:

- **Use Cases Feasibility Check** (Use Cases, Descriptions, References)
- **References of Articles** (Industry Trends)
- **Company Focus Areas**

5 Conclusion & Future Work

5.1 Achievements

- Successfully extracted **AI trends & company strategies**.
- Generated **AI use cases tailored** to business needs.
- Retrieved **datasets from Kaggle**.
- Generated a structured **Excel report**.

5.2 Future Improvements

- Expand dataset sources beyond Kaggle (e.g., HuggingFace, Data.gov).

- Enhance AI use case generation using fine-tuned LLMs.
- Deploy the app online for public access.