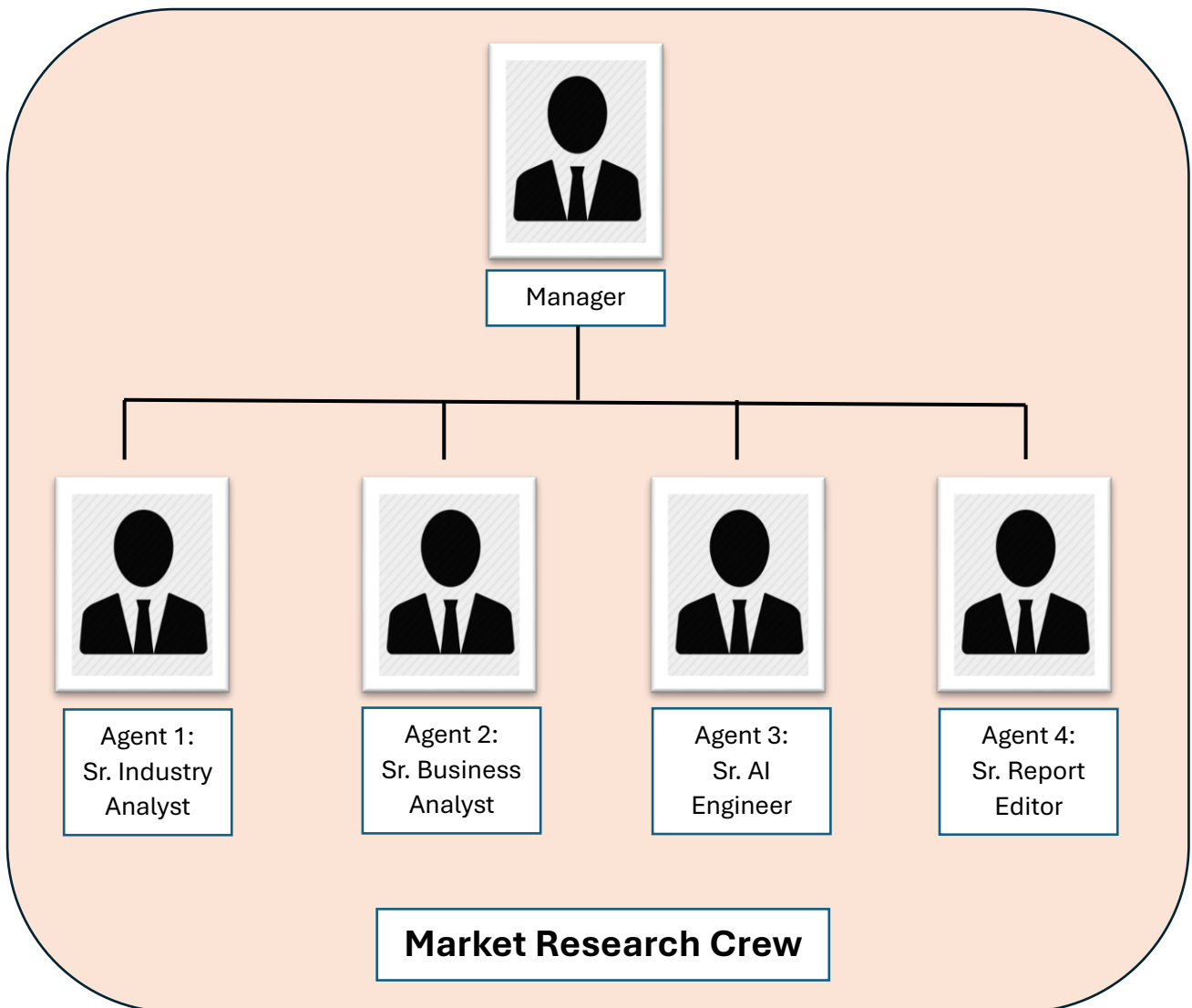


## Architecture Flowchart of Multi-Agent workflow



The Market Research Crew is Hierarchical in structure with the Manager on top supervising the progress of the tasks and stepping in as and when necessary. The primary tasks of the agents have been defined as follows:

- 1) **Agent 1- Sr. Industry Analyst:** Performs primary research on the provided research area and provides complete details regarding the competitors, the USP of the products etc. required for understanding the Industry or Company.
- 2) **Agent 2-Sr. Business Analyst:** Based on the research performed by the Industry Analyst, it researches on potential development areas where AI can be implemented. Prepares a report based on it. [NOTE: Sometimes the Crew Manager kicks in during saving the report and causes the output file to be different than that of the final answer generated by Agent 2. Please excuse in case this issue occurs and kindly consider the detailed report output generated during runtime]

- 3) **Agent 3- Sr. AI Engineer:** Based on the report prepared by the Business Analyst, it performs research to find suitable datasets from reputed sources which can be used to implement the use-cases suggested by the Business Analyst.
- 4) **Agent 4- Sr. Report Editor:** Checks whether the research performed by the Sr. AI Engineer is correct and prepares the final report.

### **Methodology:**

I have used CrewAI to integrate the different Agents and have used GPT-4o model from OpenAI as the LLM. StreamLit has been used to design the UI.

### **Output:**

The program outputs two reports namely- “market\_research.md” and “AI\_use-cases.md”:

- 1) The first report contains detailed market research containing the details of the Company/Industry, its competitors, its vision and mission, its strategic focus areas (e.g., operations, supply chain, customer experience, etc.) and all other information required to have a solid understanding of the Company or Industry. It also contains the use-cases where AI can be implemented for potential development.
- 2) The second report contains the use-cases where AI can be implemented alongwith relevant links of datasets from reliable sources which can be used for the implementation of the same.

Thank You.