

Multi-Agent Search Crew - Advanced Search Engine

The Customer

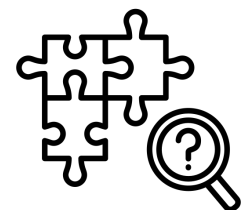
A world's leading producer and provider of science videos, with the mission to improve scientific research and education. Millions of scientists, educators, and students at thousands of universities, colleges, hospitals, and biopharmaceutical companies worldwide use their research and teaching.



The Challenge

Customer's search engines often struggle to effectively address complex search queries that involve multiple interconnected concepts, especially when dealing with diverse content types.

- Identify and correlate
- Discover associated research papers
- Uncover datasets or experimental materials

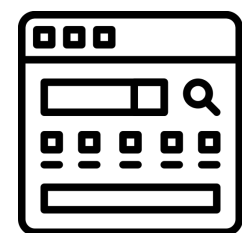


The Solution

We developed a multi-agent search engine based on the agentic framework of AI.

Semantic Search Agent:

- Leverages the vector store to understand the semantic meaning of the query.
- Identifies key concepts and entities within the query.
- Retrieves relevant text-based content from the vector store.



Graph Search Agent:

- Explores the knowledge graph to discover relationships between entities identified by the Semantic Search Agent.
- Identifies relevant nodes and edges in the graph representing related concepts, authors, publications, and other entities. Provides context and additional information for the query.

Video Search Agent:

- Uses the video content embedding vector store to find relevant video content.
- Identifies video related to the query's key concepts. Provides visual context and complementary information to the text-based results.

The combined efforts of the three agents provides a comprehensive response to the query, including: Relevant text-based research articles and abstracts. Related research papers, clinical trials, and researchers. Informative videos demonstrating surgical procedures or patient experiences. By working together, the agents can offer a more informative and comprehensive search experience.

The Impact

A Multi-Agent Search Crew offers a promising approach to enhance search functionality. By leveraging collaboration between specialized agents, this framework can facilitate complex searches, improve result accuracy, and empower researchers with a more effective search experience.

Tech Stack

CrewAI, OpenSearch, neo4j, Unstructured.io, OpenAI, Clip, Langchain

About Us

DataSlush is a data & AI consulting and research company - providing Analytics, AI, Data Engineering services and solutions. At the frontier of knowledge in data analytics and Generative AI/LLM, we continuously push the boundaries of innovation to stay ahead of the curve. Our team of experts combines cutting-edge research with practical expertise to develop solutions that drive tangible results for our clients.

Our purpose is to **bring certainty and innovate for a better tomorrow.**

50+

Delighted Customers

80+

Projects Completed

96%

Net-Promoter Score

20

Subject-Matter Experts

