PALOOZA

NASA Tournament Lab

- by NASAPalooza
- Research Rover Challenge @ DRIVENDATA

TEAM

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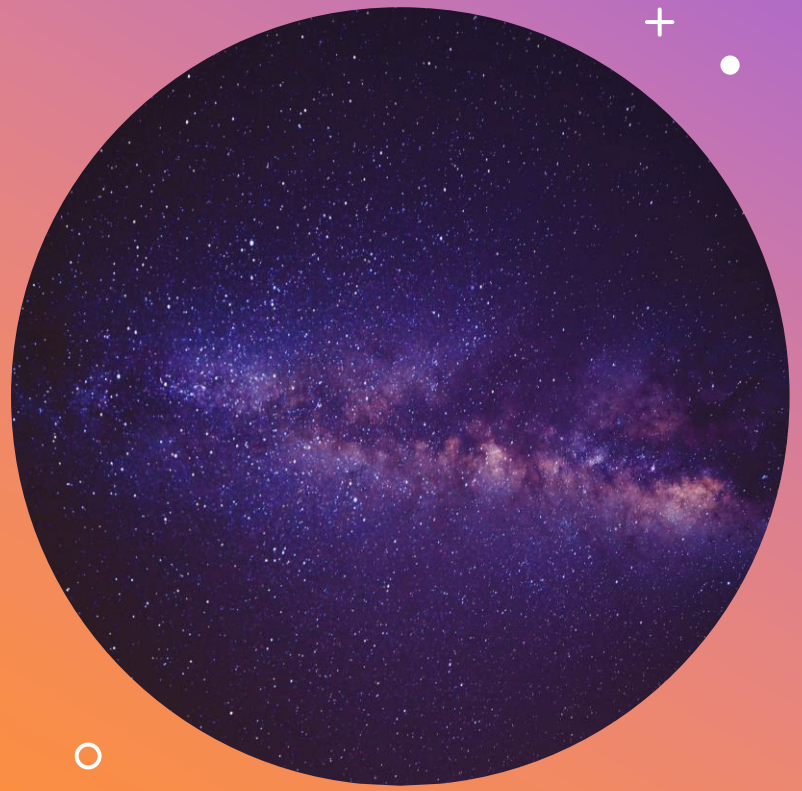


CONTENT

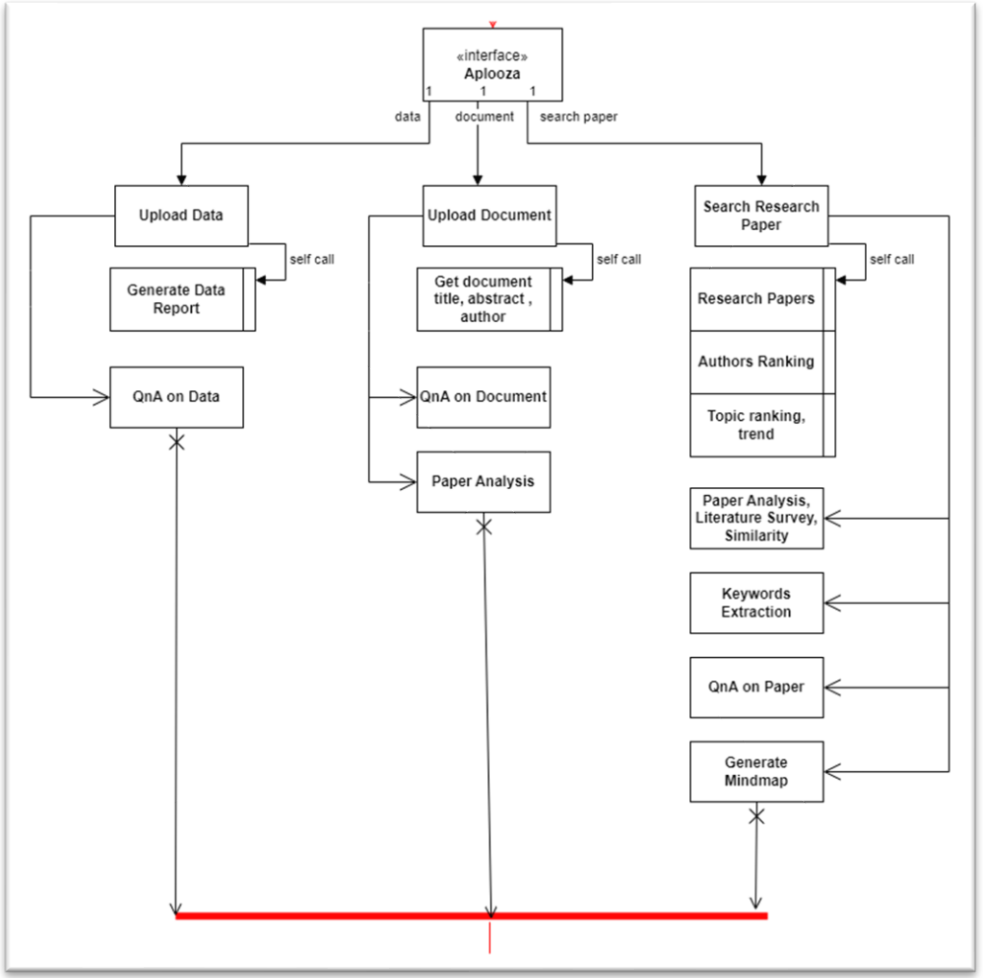
Problem Statement
Features & Approach
Palooza Demo
Benefits
Comparison
Future Enhancement

Problem Statement

1. **Information Overload**
2. **Time-Consuming Review**
3. **Interdisciplinary Challenges**
4. **Relevance Filtering**
5. **Efficiency Gap**

Features

1. Paper Retrieval
2. Paper Analysis
3. Questioning & Answering (Q&A)
4. Document Analysis
5. Dataset Analysis
6. Author Analysis
7. Mind map
8. Keyword Extraction and Annotation
9. Literature Review
10. Topic Trend Analysis
11. Relevant Searches
12. Bookmark and Favorite List



Approach

DEMO

Palooza

Palooza

Relevance

- Palooza addresses pressing research challenges
- Streamlines literature review process
- Saves valuable time and resources
- Focuses on the most pertinent research
- Offers an efficient solution for researchers

Effectiveness

- Palooza offers a wide array of features
- Includes automated paper retrieval
- Provides advanced paper analysis tools
- Offers Q&A capabilities
- Empowers researchers for efficient insight extraction
- Enhances the utilization of the latest advancements

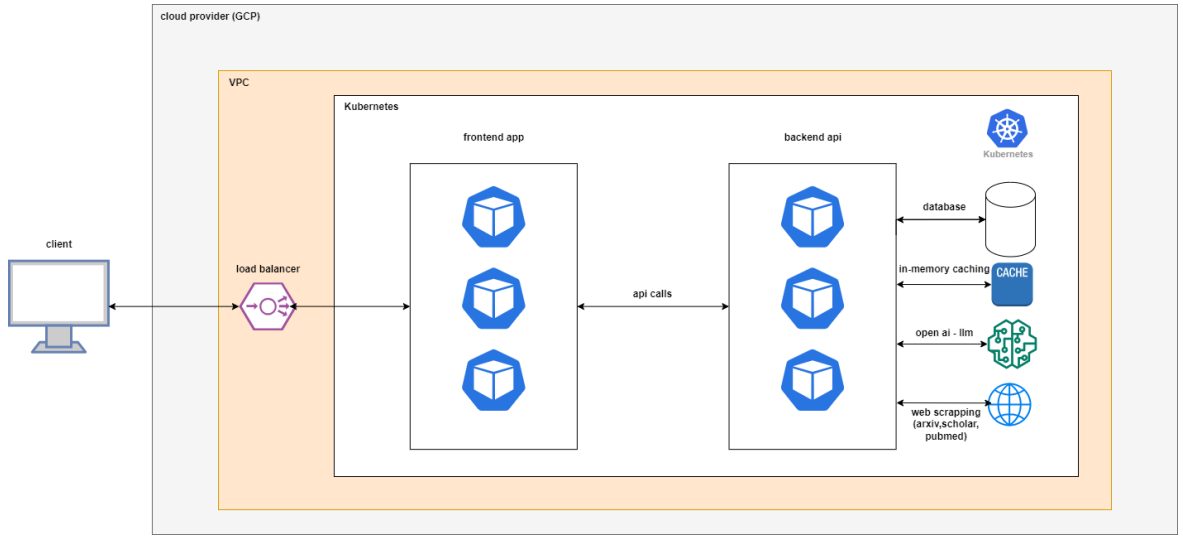
Impact

- Reduces information overload.
- Facilitates interdisciplinary research
- Provides trend analysis
- Potential to impact the research landscape
- Fosters innovation
- Accelerates scientific discovery across domains

Palooza

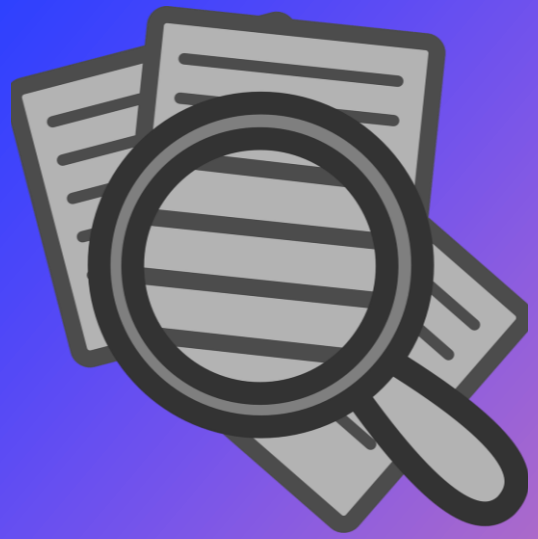
Deployment

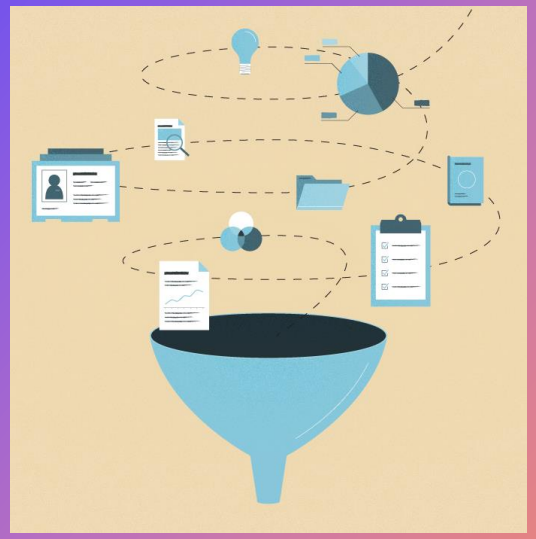
- Palooza has a cloud-agnostic architecture
- Prioritizes adaptability and scalability across diverse cloud providers
- Utilizes a microservices-oriented methodology
- Divides the application into discrete, autonomous components or containers
- Uses Docker for packaging services with dependencies
- Adopts container orchestration frameworks like Kubernetes
- Provides abstraction layers for multiple cloud providers
- Enables consistent deployment and administration without infrastructure constraints

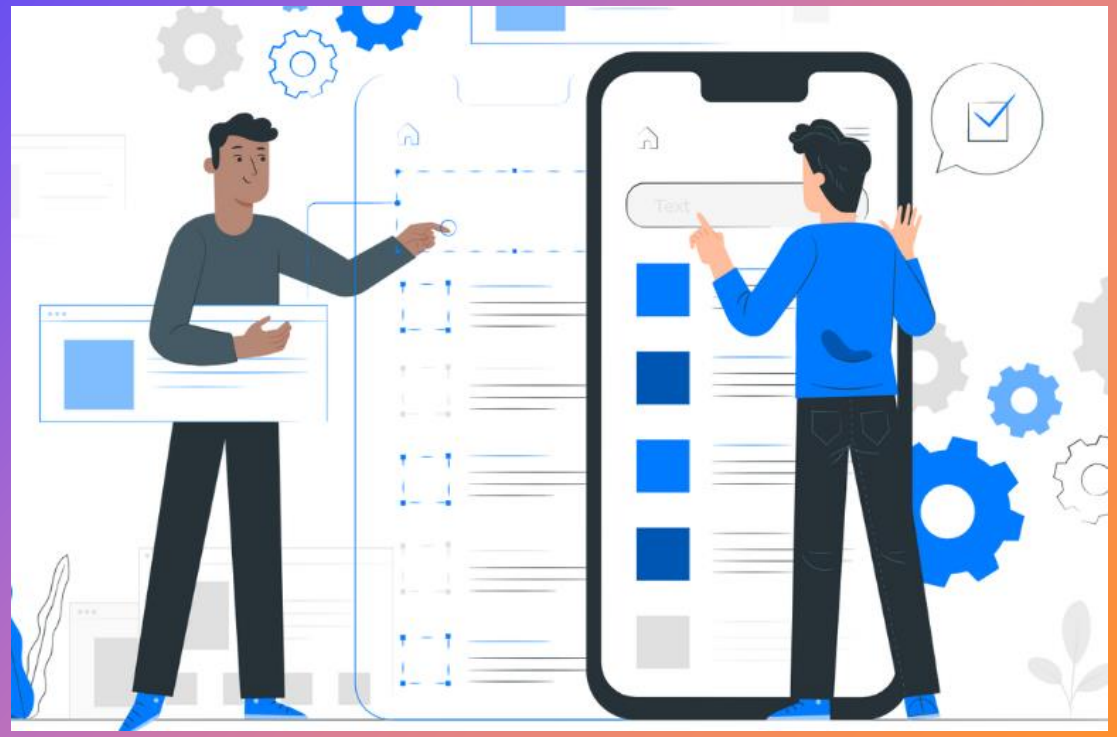


Comparing Palooza with other available application

Features	Palooza	ELICIT	Connected Papers	ResearchRabbit
Multiple sources (such as arXiv, Pubmed, etc.)	✓	✓	✓	✓
Provides Relevant Searches	✓	✓	✓	✓
Paper Analysis	✓	✓	✗	✗
Document/Paper analysis with QnA powered by LLM's	✓	✗	✗	✗
Dataset Analysis with QnA functionality	✓	✗	✗	✗
Download Literature Review	✓	✗	✗	✗
Author Analysis	✓	✗	✗	✓
MindMap	✓	✗	✓	✗
Download Literature Review	✓	✗	✗	✗
Keyword Extraction and Annotation with Trend analysis	✓	✗	✗	✗







Future Enhancement

- Complex and Advance prompts for more domain specific retrieval
- Advance mind maps
- Support all retrieval engines
- UI Enhancement
- Support various data sources for data analysis
- Advance Table Comparison view
- Downloading report across multiple research papers
- Database integration for user login and storing sessions like recent search, retrieve favorite papers

THANK YOU

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