

LibraFinFact Documentation

Introduction

LibraFinFact is an AI-powered platform designed to address the growing challenges in managing and verifying corporate action data. By leveraging advanced machine learning algorithms and large language models, LibraFinFact simplifies data verification, enhances accessibility, and delivers actionable insights to retail investors, analysts and corporate professionals.

Key Features

1. **Discrepancy Detector:** Identifies inconsistencies and discrepancies across documents to ensure data accuracy.
2. **Avatar for Content Summarization:** Uses a photo-realistic avatar for summarizing content in an engaging and understandable format.
3. **Voice Assistant:** Offers hands-free interaction and voice-based query handling.
4. **Data-driven Insights and Analysis:** Provides comprehensive insights and analysis based on verified data.
5. **Recommendation Questions:** Suggests relevant questions based on user queries to enhance decision-making.
6. **Chat with PDF:** Enables interactive querying and extraction of information from PDFs.
7. **Real-time Corporate Action Updates:** Provides up-to-date information on corporate actions.
8. **Official and Other Sources:** Aggregates data from verified and reliable sources.
9. **Multi-language Support:** Supports multiple languages for wider accessibility.
10. **User-Friendly Interface:** Ensures ease of use with an intuitive interface.

Problem Statement

How can we make Corporate Action Data smarter and more accessible, helping everyone to make better financial decisions?

Problem #1: Information Overload

- **Volume of Data:** Over 50,000+ listed companies, 1,00,000+ annual reports, and 150,000+ pages of financial data.
- **Challenges for Individual Investors:**
 - Information overload and manual verification.
 - Over 10 hours/week spent on data gathering.
 - 60% of investors rely on unverified sources.
 - Data fragmentation across PDFs, news, and filings.
 - High data costs, with firms spending up to \$4K annually on subscriptions.

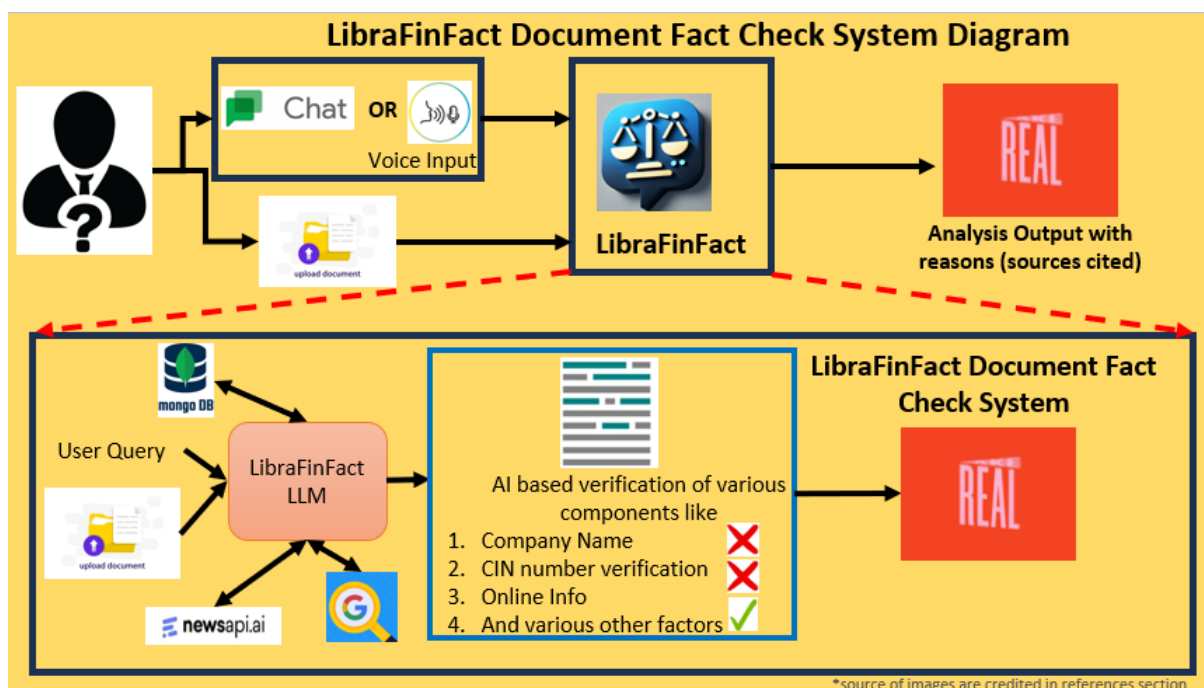
Problem #2: Discrepancies in Documents

- **Prevalence of Discrepancies:** 60% of reports contain discrepancies due to a lack of standardization (McKinsey).
- **Corporate Action Challenges:**
 - Unreliable and scattered information.
 - Non-verifiable sources.
 - Uncertainty that hinders informed decision-making.

LibraFinFact System Overview

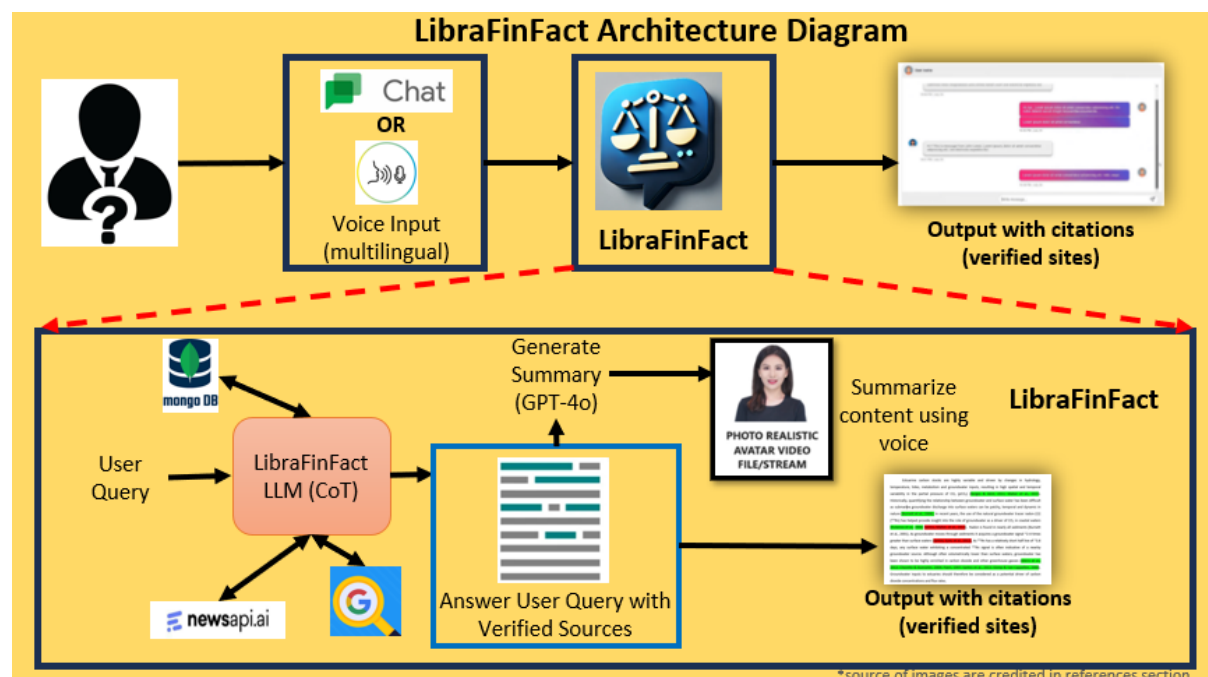


LibraFinFact Document Fact Check System Diagram



1. **User Input:** Users can submit queries via chat or voice input and upload documents for verification.
2. **Processing with LibraFinFact:**
 - The system uses AI-based verification for components like company name, CIN number, online info, and more.
 - Cross-referencing with databases like MongoDB, NewsAPI, and Google.
3. **Output:** Provides an analysis output with reasons and cited sources.

LibraFinFact Architecture Diagram



1. **Input Methods:**
 - Users can input queries through chat or multilingual voice input.
2. **LibraFinFact LLM (CoT):**
 - Processes queries using chain-of-thought reasoning.
 - Verifies sources through MongoDB, NewsAPI, and Google.
3. **Output Generation:**
 - Answers are provided with verified sources and citations.
 - Summaries are generated using GPT-4o and presented through a photo-realistic avatar (Azure).

Technologies Used

Programming Languages

- **Python:** For backend development.
- **JavaScript / React:** For interactive frontends.
- **HTML & CSS:** For structuring and styling web content.

Additional Tools

- **Azure OpenAI:** For avatar text/speech conversion and multilingual support.
- **Claude AI:** For Large Language Model support.

Conclusion

LibraFinFact addresses critical challenges in corporate action data management, from information overload to discrepancies in documents. By integrating AI-powered tools, multilingual support, and real-time updates, LibraFinFact empowers users to make informed financial decisions efficiently and accurately.