

ccamer rerveves Aanlys



Enhanced Feedback Analysis System

Designed and developed by

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- A multi-agent NLP platform
- Extracts rich, structured insights from customer feedback
- Powered by agentic LLM workflows

Key Features



Named Entity Recognition (NER)

Identifies and categorizes key information in text.



Sentiment Quintuple Extraction

Extracts Target, Feature, Sentiment, Opinion Holder, and Time.



Coreference Resolution

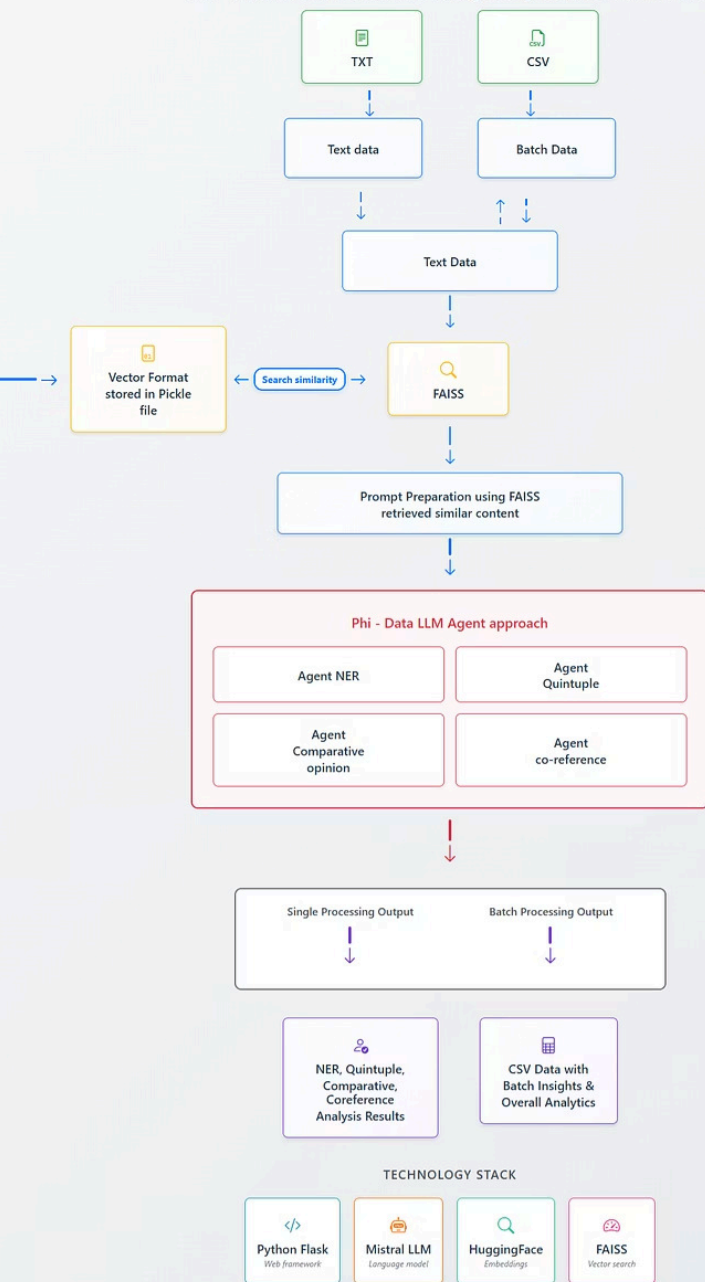
Links pronouns and nouns to their proper references.



Comparative Opinion Mining

Analyzes opinions comparing different entities.

Enhanced Feedback Analysis System Architecture



System Architecture

The system is domain-agnostic, real-time, and fully extensible, designed for robust feedback analysis.

Tech Stack Overview

Frontend	HTML, CSS, Bootstrap, Material Icons
Backend	Flask, REST API, SSE
LLM Agentic	Mistral + Phidata
Vector DB	FAISS
Embeddings	all-MiniLM-L6-v2 (384d)
Integration	LangChain + FAISS + SSE

A comprehensive set of tools ensures powerful and efficient processing.

Single Review Flow

Review Input

✎ Enter Reviews for Analysis

Your Review or Feedback

The seat comfort was average—definitely not as spacious as what I experienced on Singapore Airlines, but slightly better than United Airlines' economy class. The inflight entertainment system was outdated, and some screens weren't working, which was disappointing for such a long flight.

The food, however, was fantastic! Compared to Emirates, I found Air India's Indian meal options to be far more authentic and flavorful. The cabin crew was polite and professional, though not as proactive as Qatar Airways' crew, who consistently check on passengers.

A major downside was the bathroom cleanliness, which could have been maintained better throughout the flight. Also, the WiFi was non-existent, something that competing airlines like Lufthansa and British Airways offer. Overall, while the food was a highlight, Air India needs to improve its inflight entertainment and service attentiveness to compete with top international airlines.

📘 Pro Tip:

You can view and copy a sample text for testing, or download it as a file to see how our AI analysis works. This system is optimized for **airline/flight reviews** but can analyze any feedback text.

View Example

Download Sample

Real World Reviews

View Documentation

Words: 183 | Characters: 1201 / 8000

Analyze Review

Named Entity Recognition

Step 1: Cleaned Review

i recently flew with air india on flight ai 101 from delhi to new york on april 5, 2024. the flight departed on time, but the check-in process at indira gandhi international airport was slow, with long queues and limited staff at the counters. the seat comfort was averagedefinitely not as spacious as what i experienced on singapore airlines, but slightly better than united airlines economy class. the inflight entertainment system was outdated, and some screens werent working, which was disappointing for such a long flight. the food, however, was fantastic! compared to emirates, i found air indias indian meal options to be far more authentic and flavorful. the cabin crew was polite and professional, though not as proactive as qatar airways crew, who consistently check on passengers. a major downside was the bathroom cleanliness, which could have been maintained better throughout the flight. also, the wifi was non-existent, something that competing airlines like lufthansa and british airways offer. overall, while the food was a highlight, air india needs to improve its inflight entertainment and service attentiveness to compete with top international airlines.

Step 2: Named Entity Recognition (NER)

ORG

Air India

Singapore Airlines

United Airlines

Emirates

Qatar Airways

Lufthansa

British Airways

FLIGHT

AI 101

GPE

Delhi

New York

DATE

April 5, 2024

FAC

Indira Gandhi International Airport

Sentiment Quintuples

The diagram illustrates a sentiment analysis pipeline for flight reviews, organized into five main sections:

- Step 3: Sentiment Quintuples**
 - Target Objects:** A collection of entities including "Air India", "Air India Flight AI 101", "Indira Gandhi International Airport", "Singapore Airlines", "United Airlines", "Emirates", "Qatar Airways", "Lufthansa", and "British Airways".
 - Sentiments:** A collection of sentiment pairs for various features, color-coded by sentiment: Positive (green), Negative (red), and Neutral (grey).
 - flight departure: Positive, check-in process: Negative
 - seat comfort: Neutral, leg space: Neutral
 - inflight entertainment system: Negative
 - screen functionality: Negative, food quality: Positive
 - meal authenticity: Positive, meal flavor: Positive
 - cabin crew behavior: Positive, crew proactiveness: Negative
 - bathroom cleanliness: Negative, WiFi availability: Negative
 - service attentiveness: Negative
 - Extracted Times:** A single date: "April 5, 2024".
- Features:** A collection of flight-related features: "flight departure", "check-in process", "seat comfort", "leg space", "inflight entertainment system", "screen functionality", "flight duration", "food quality", "meal authenticity", "meal flavor", "cabin crew behavior", "crew proactiveness", "bathroom cleanliness", "WiFi availability", and "service attentiveness".
- Opinion Holders:** A single entity: "anonymous reviewer".

Coreference & Comparative Opinion Mining

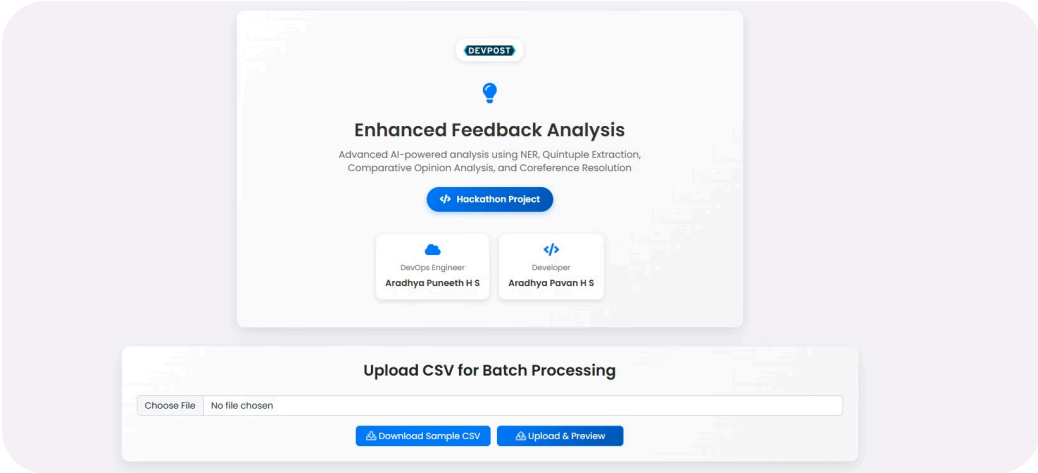
Step 5: Comparative Opinions				
Target1	Target2	Feature	Comparative Phrase	Sentiment
Singapore Airlines	Air India	seat comfort	definitely not as spacious as	Singapore Airlines: Positive Air India: Average
Air India	United Airlines	seat comfort	slightly better than	Air India: Positive United Airlines: Negative
Air India	Emirates	food	far more authentic and flavorful	Air India: Positive Emirates: Negative
Qatar Airways	Air India	cabin crew	not as proactive as	Qatar Airways: Positive Air India: Average
Lufthansa	Air India	WiFi	non-existent	Lufthansa: Positive Air India: Negative
British Airways	Air India	WiFi	non-existent	British Airways: Positive Air India: Negative

Download Results

Batch Processing Flow

The batch processing flow allows for efficient analysis of multiple reviews.

- Upload CSV for bulk processing.
- Preview cleaned reviews before analysis.
- Generate detailed annotation summaries per review.
- Access overall insights, complaints, praises, and recommendations.
- View and download previous runs and processed CSVs.



Annotations Summary - 20250627151641

#	Review	Summary	Insights
1	i booked a flight with emirates from new york to dubai on october 15th.	A customer booked a flight with Emirates from New York to Dubai on October 15th.	The airline used was Emirates , The departure city was New York , The destination city was Dubai , The travel date was October 15th.
2	the hotel in paris had amazing service, but the room was small.	The hotel in Paris offered excellent service but had a notably small room.	Amazing service, Small room size
3	i love how delta airlines offers better food than american airlines!	The reviewer praises Delta Airlines for providing superior food compared to American Airlines.	Delta Airlines offers better food. American Airlines has inferior food compared to Delta. Food quality is a distinguishing factor for the reviewer
4	my uber driver was late, and the ride was uncomfortable.	The reviewer had a negative experience due to the driver's tardiness and the uncomfortable ride.	The Uber driver was late for pickup , The ride was not comfortable for the passenger , Overall dissatisfaction with the service.
5	booking with airbnb was cheaper compared to hotels in la.	The reviewer found Airbnb to be a more cost-effective option compared to hotels in Los Angeles.	Airbnb is cheaper than hotels in LA.

Back to Previous Runs

Domain Adaptability



1 Annotate New Reviews

Curate and annotate feedback specific to the new domain.

2 Generate New Embeddings

Create fresh embeddings derived from the annotated data.

3 Replace FAISS Index

Update the FAISS index with the newly generated embeddings.

4 Update Prompts

Refine prompts to incorporate domain-specific terminology and aspects.

5 Leverage Existing Pipeline

Reuse the existing pipeline without requiring modification to core logic.

What's Next?



Expand to Multiple Domains

Extend to healthcare, e-commerce, and finance.



Improve Scalability

Optimize pipelines for larger datasets.



Hybrid Search Optimization

Combine vector and keyword retrieval.



Fine-Tune LLMs

Enhance model accuracy and contextual understanding.



Enhance Real-Time Processing

Boost performance for faster feedback loops.