Pulse

Trace the Pulse of the World

Real-Time News Insights & Smart Contextual Search

Trae AI IDE: Zero Limits Hackathon

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Problem Statement
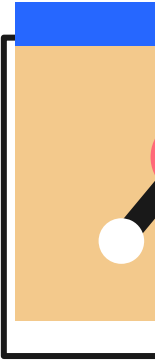
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Problem Statement

The Problem

No Single Source

News consumption today is fragmented

Missing Context

Readers lack context beyond single headlines

Outdated Content

No easy way to query recent events and get smart summaries.

Our Solution

Real-time insights

Pulse offers contextualized insights from real-time news

Smart Querying

Lets users interact with trending topics via smart query

Summarized Results

Summarizes related news for deeper understanding

02

Value Proposition

Business Value

Ask anything

not just keywords - and get meaningful, filtered answers

Trust what you see

get summaries that are grounded in sources you can trust.

See the bigger picture

how news evolved, where the signals are, and what's missing

Control your inputs

it uses RSS, customize the input knowledge based on your feeds

03

Solution Overview

Features

Semantic + LLM fusion

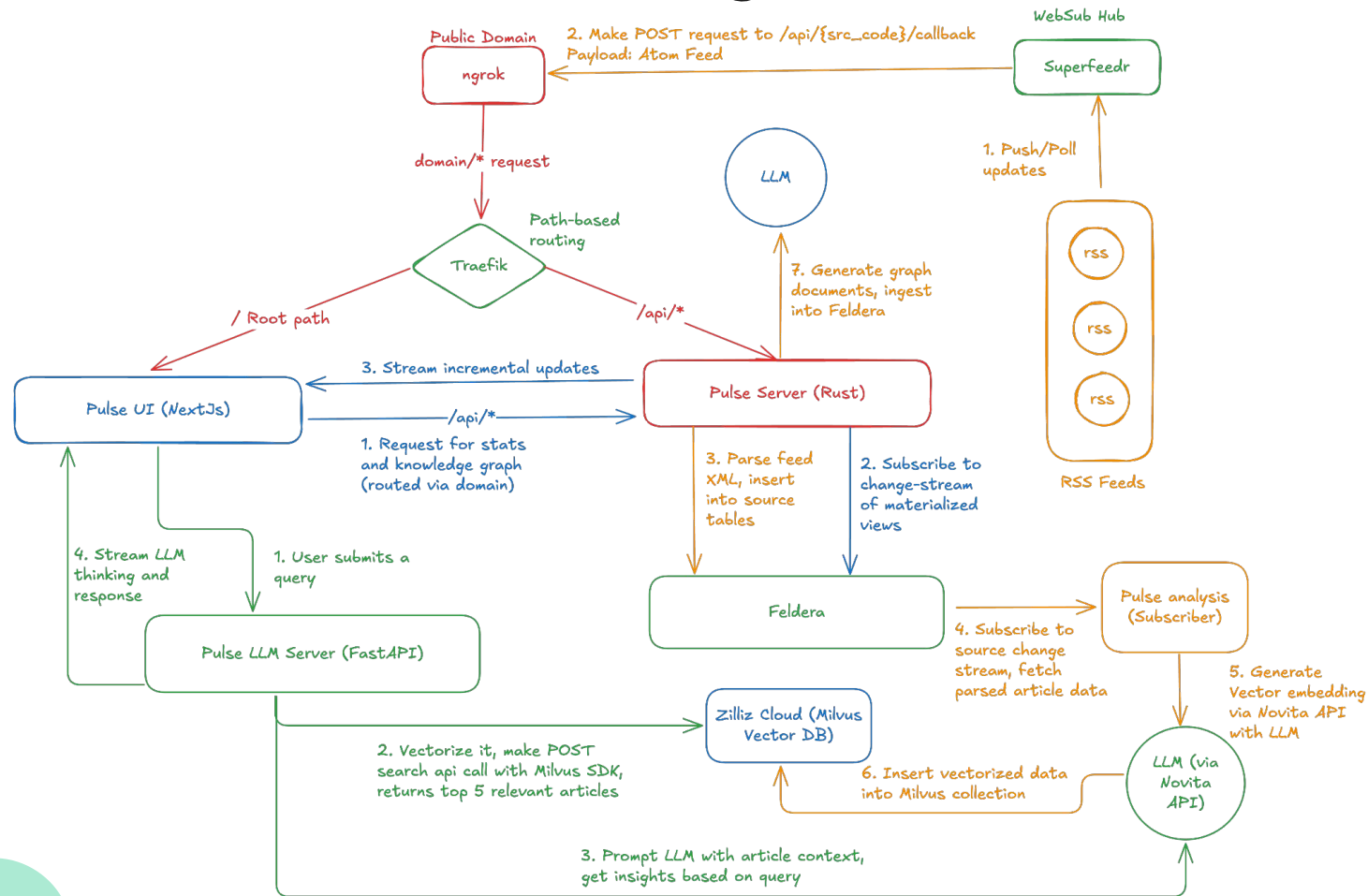vector search narrows scope, LLMs summarize with relevance.

Built with speed + privacy in mind

how news evolved, where the signals are, and what's missing

Fast Retrieval and Generation
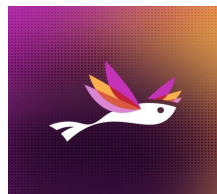
with Feldera + Zilliz Cloud + Novita AI

Public Domain

ngrok

2. Make POST request to /api/{src_code}/callback
Payload: Atom Feed

WebSub Hub

Superfeedr

domain/* request

1. Push/Poll updates

LLM

Path-based routing

Traefik

7. Generate graph documents, ingest into Feldera

rss
rss
rss

/ Root path

/api/*

RSS Feeds

3. Stream incremental updates

Pulse UI (NextJs)

Pulse Server (Rust)

/api/*

1. Request for stats and knowledge graph (routed via domain)

3. Parse feed XML, insert into source tables

2. Subscribe to change-stream of materialized views

4. Stream LLM thinking and response

1. User submits a query

Pulse LLM Server (FastAPI)

Feldera

Pulse analysis (Subscriber)

4. Subscribe to source change stream, fetch parsed article data

2. Vectorize it, make POST search api call with Milvus SDK, returns top 5 relevant articles

Zilliz Cloud (Milvus Vector DB)

5. Generate Vector embedding via Novita API with LLM

6. Insert vectorized data into Milvus collection

LLM (via Novita API)

3. Prompt LLM with article context, get insights based on query

Tech Stack

TRAE

Novita

zilliz

Next.js

Python

Rust

Feldera

RSS

Traefik

04

How Trae was Used

Some Examples

"Give me a template code to make insert API calls to Zilliz Cloud with Milvus Vector DB, so that I can add data points to the vector store."

"Generate a UI code snippet to create a toggle switch between 'Thinking' and 'Summary' buttons."
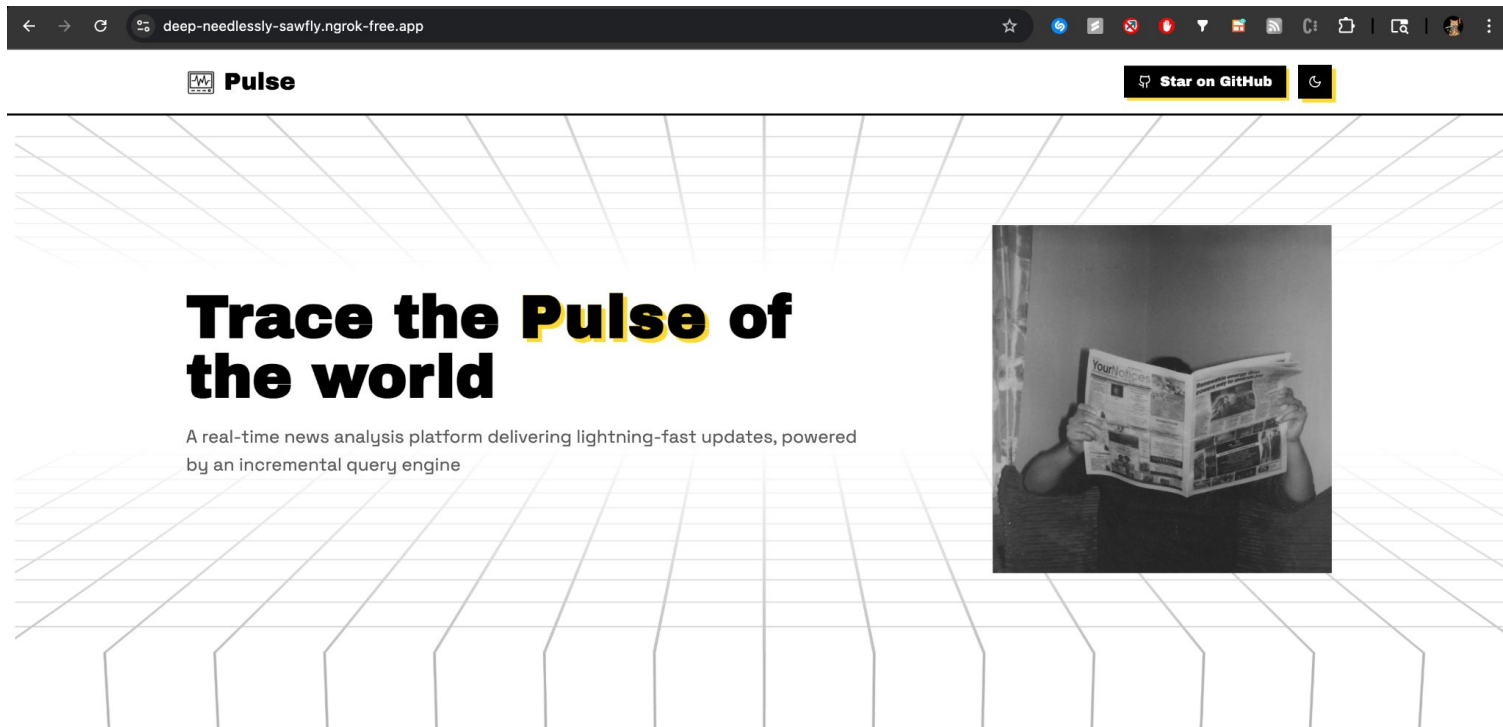
"Give me a template code to make search API calls to Zilliz Cloud with Milvus Vector DB, so that I can query the vector store."

05

Product Demo

Product Demo

Provide insights on latest issues in the US

[Thinking] [Summary]

Okay, let me start by looking at the user's query. They want insights on the latest issues in the US based on the provided articles. First, I need to go through each article and extract the key points.

The first article mentions Trump's financial disclosures showing over $600 million in income. There's also a mention of other officials earning from crypto, Bibles, speeches, etc. This relates to financial transparency and potential conflicts of interest, especially with crypto involvement.

Top Search Results

Trump reports over $600 million in income in latest financial disclosure ⌄

Searching for answers about US-backed aid agency in Gaza ⌄

Trump administration considers adding 36 countries to travel ban list ⌄

Fox News Hosts Gushed Over the Parade, With No Protests in Sight ⌄

[Thinking] [Summary]

Based on the provided articles, here are some insights into the latest issues in the US:

1. **Financial Scrutiny:** President Trump reported significant income ($600 million+) in his latest financial disclosures. This raises ongoing questions about his financial dealings, including potential earnings from diverse sources like cryptocurrency, speeches, and even Bibles, alongside official duties, which can fuel debates about ethics and potential conflicts of interest.

2. **Foreign Policy and Aid:** The creation of the US-backed Global Health Forum (GHF) in Gaza aims to address food aid. While details are scarce, its establishment highlights the complexities and challenges of US foreign policy in the region and reflects specific US-Israeli strategic interests in humanitarian assistance amidst conflict.

3. **Immigration/Travel Restrictions:** The Trump administration is considering expanding a travel ban to include 36 additional countries. This move, backed by an internal memo setting strict deadlines, underscores the administration's continued focus on immigration control and reflects ongoing geopolitical tensions and debates over international relations.

4. **Domestic Security Concerns:** A shooting incident targeting Minnesota politicians has occurred, prompting law enforcement action. This event adds another layer to the concerning trend of violence against elected officials, highlighting persistent domestic security issues and the vulnerability of public servants.

06

Market Research

Market Landscape

	Pulse (Ours)	Bloomberg NSTM	Dataminr	NewsWhip	News360
Semantic Search	Yes	Yes	No	No	Basic Clustering
LLM-Based Summarization	Yes	Yes	No	No	No
Traceable Source Linking	Full transparency	No	Opaque Signals	No	No
Custom RSS Ingestion	Yes	No	No	No	Yes
Trend/Signal Detection	Planned	Limited to finance	Yes	Yes	Limited

Revenue Streams

Developer API Access

Gives access to our semantic search and summarization engine

Premium Users

Could subscribe for deeper features like timeline views, trend alerts, or save-and-track options.

Enterprise Tier

For financial and policy research teams, enabling them to run locally with their own feeds - which is a huge plus for privacy-conscious teams

Insights-as-a-service

Helping companies monitor narratives, competitors, or regulatory movements - especially useful in finance, policy, and PR.

Thanks!

If you have any questions you can reach out to us through LinkedIn.

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Abhishek Varshney -
https://www.linkedin.com/in/avarshn/

Love to connect to talk about it.
If you like our work, star the GitHub Repo.
https://github.com/RVKarmani/pulse