

# F1GPT

Formula One AI Chatbot

Powered by GPT-5

# F1GPT



## FORMULA ONE AI CHATBOT



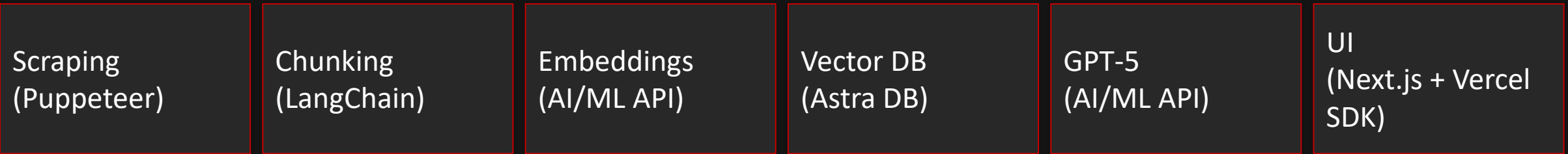
# Problem

- Fans, journalists, and analysts lack an easy way to query race history, regulations, and live data.
- Information is scattered across Wikipedia, F1.com, and forums.
- Current search methods are slow, fragmented, and not conversational.

# Solution

- Domain-focused AI assistant for Formula One
- Retrieval-Augmented Generation (RAG) pipeline
- GPT-5 ensures context-rich, accurate answers
- Intuitive F1-themed chat interface

# Architecture — Overview



# Step 1: Scraping (Puppeteer)

- Crawls authoritative Formula One sources such as Wikipedia and F1.com.
- Extracts raw HTML, strips tags, and prepares clean text.
- Automates updates to ensure data freshness.

## Step 2: Chunking (LangChain)

- Splits long articles into overlapping text chunks.
- Uses RecursiveCharacterTextSplitter (512 tokens, overlap 100).
- Ensures contextual continuity and retrievability.

## Step 3: Embeddings (AI/ML API)

- Generates vector embeddings using 'openai/text-embedding-3-small'.
- Dimension: 1536, stored as float arrays.
- Converts text chunks into machine-readable vector space.

## Step 4: Vector DB (Astra DB)

- Stores embeddings in Astra DB serverless vector collection.
- Supports similarity search using dot\_product metric.
- Retrieves top-K relevant chunks for a given query.



## Step 5: GPT-5 (AI/ML API)

- GPT-5 ingests retrieved context + user query.
- Produces coherent, context-rich answers.
- Streaming responses delivered to client for real-time UX.

# Step 6: Chat UI (Next.js + Vercel AI SDK)

- Frontend built with Next.js 15 and React 19.
- Real-time streaming via Vercel AI SDK.
- F1-themed styling with Tailwind CSS v4.
- Secure serverless API routes for key safety.

# Value & Next Steps

## Value:

- Fans: instant answers and F1 knowledge
- Journalists: faster research and reporting
- Teams: conversational analytics & insights

## Next Steps:

- Integrate live race data
- Expand to multilingual support
- Launch mobile-first version
- Add citations and fact-check layers