Artificial Intelligence and the Future of Search

September 2024
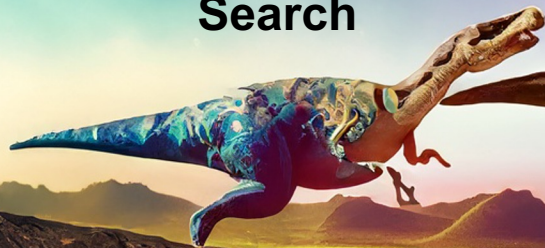
Chris Pozezanac

Manager, Solutions Architecture

About Elastic

A Brief Overview

- ✓ Founded 2012, IPO 2018, NYSE: "ESTC"

- ✓ 3,500+ employees in 40+ countries

- ✓ 54% Fortune 500 companies

- ✓ World's #1 database search engine (DB-Engines)

- ✓ Over 4 billion downloads

One **Search** Analytics Platform
Two Out-of-the-Box Solutions
The Freedom to Build Anything

Out-of-the-Box Solutions

Build Your Own

Elastic Observability

Elastic Security

Elastic Search

Elasticsearch™ Platform

Ingest

Secure & Scalable Storage

AI / ML

Search

Visualization

Workflow Automation

elastic

Deployment models

Elastic Cloud Enterprise (ECE)

Manage a fleet of clusters in any infrastructure

Elastic Cloud for Kubernetes (ECK)

Manage a fleet of clustered in Kubernetes on any infrastructure
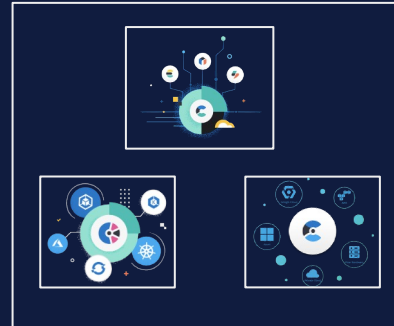

Elastic Cloud

Managed and hosted service on Google Cloud, Azure, AWS, Alibaba, Tencent, IBM.

Support for latest ARM Graviton processors

Run ML models on GPU compute of your choice

Hybrid

One single pane of glass regardless where you host your clusters with Cross Cluster Search

elastic

Generative AI apps
come with specific challenges:

- Hallucination, Bad Answers
- Real-Time Access to Private Data
- Security & Privacy
- Cost - Context Window = $$$
- Out of Date on release
- Bias encoded in the models

Lawyer Used ChatGPT In Court—
And Cited Fake Cases. A Judge Is
Considering Sanctions

Molly Bohannon, Forbes Staff

BASE10 TREND MAP: Generative AI: Developer Tools & Infrastructure
Companies are grouped based on primary developer use cases

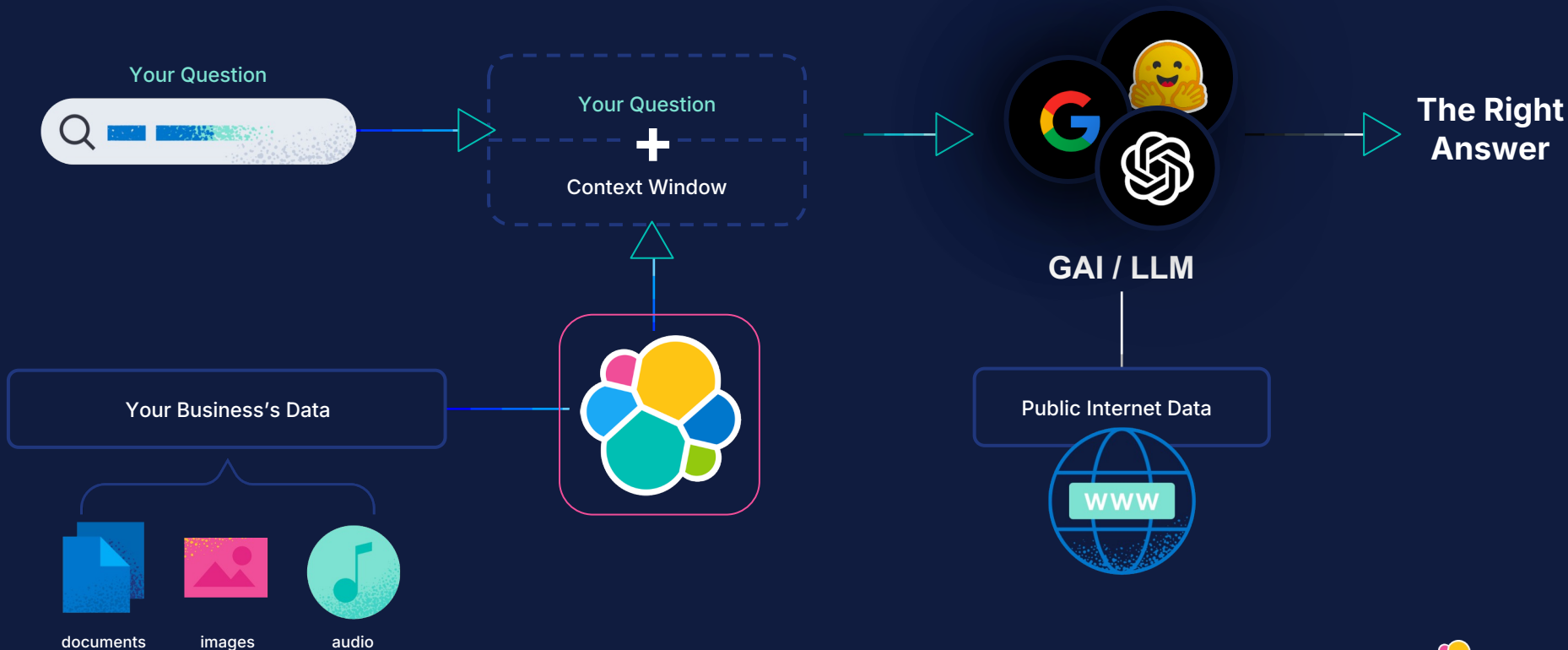Emerging LLM App Stack
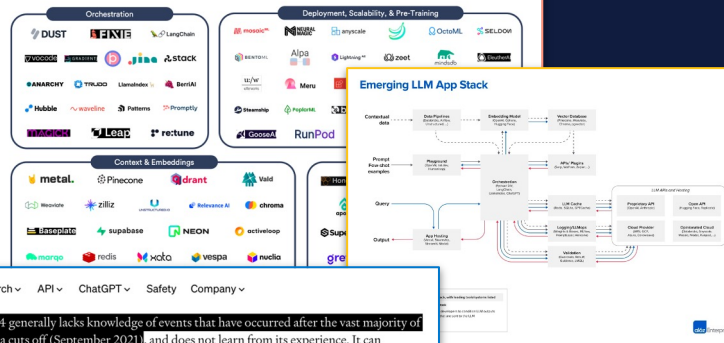
OpenAI

GPT-4 generally lacks knowledge of events that have occurred after the vast majority of its data cuts off (September 2021), and does not learn from its experience. It can sometimes make simple reasoning errors which do not seem to comport with competence across so many domains, or be overly gullible in accepting obvious false statements from a user. And sometimes it can fail at hard do, such as introducing security vulnerabilities into code

Samsung bans use of generative AI tools
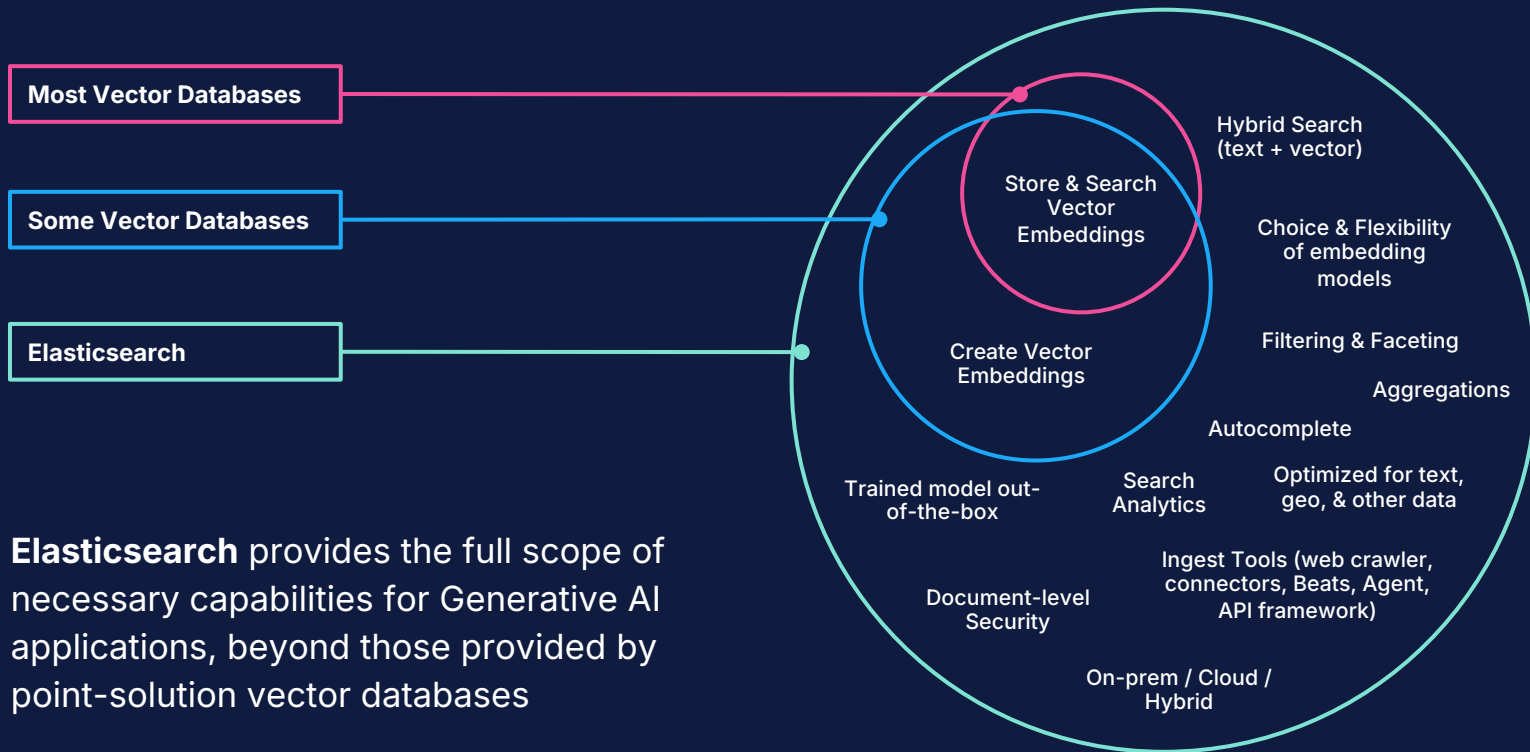like ChatGPT after April internal data leak

Kate Park @kateparknews • 9:17 AM EDT • May 2, 2023

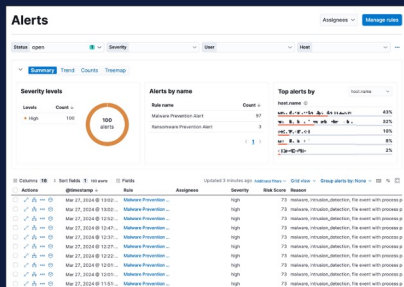elastic

Elasticsearch Relevance Engine™ for RAG

Your Question

Your Question
+
Context Window

Your Business's Data

documents   images   audio

GAI / LLM

Public Internet Data

WWW

The Right Answer

elastic

Elastic has ALL the capabilities you need

Most Vector Databases

Some Vector Databases

Elasticsearch

Elasticsearch provides the full scope of necessary capabilities for Generative AI applications, beyond those provided by point-solution vector databases

Store & Search Vector Embeddings

Hybrid Search (text + vector)

Choice & Flexibility of embedding models

Filtering & Faceting

Aggregations

Create Vector Embeddings

Autocomplete

Search Analytics

Optimized for text, geo, & other data

Trained model out-of-the-box

Ingest Tools (web crawler, connectors, Beats, Agent, API framework)

Document-level Security

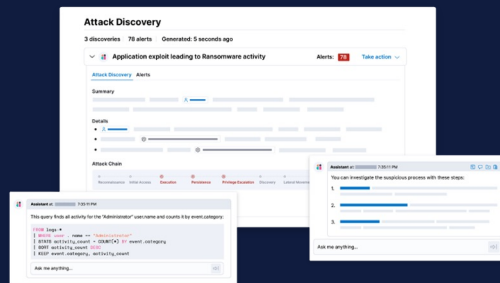On-prem / Cloud / Hybrid

elastic

Automate Security Detection, Diagnosis & Remediation with GenAI
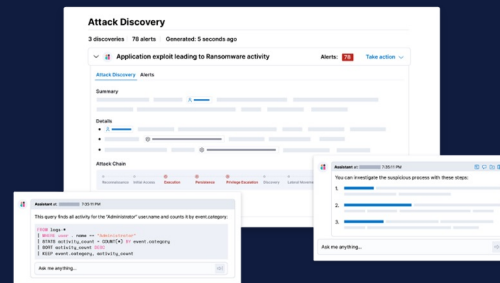
Detection

- Anomaly Detection
- ML-powered Detection Rules

Diagnosis

- Attack Discovery
- Root Cause Analyzer

Remediation

- Security Playbook Generator
- SRE Runbook Generator
- Autonomous AI responses via workflows
- Fix others like this...

elastic

AI Assistant

Powered by **ESRE** Elasticsearch Relevance Engine™

- Accelerate incident management and root cause analysis
- Interactively explore problems and execute remedies with generative AI
- Context-aware, business-specific output you can trust
- Based on your proprietary data and runbooks
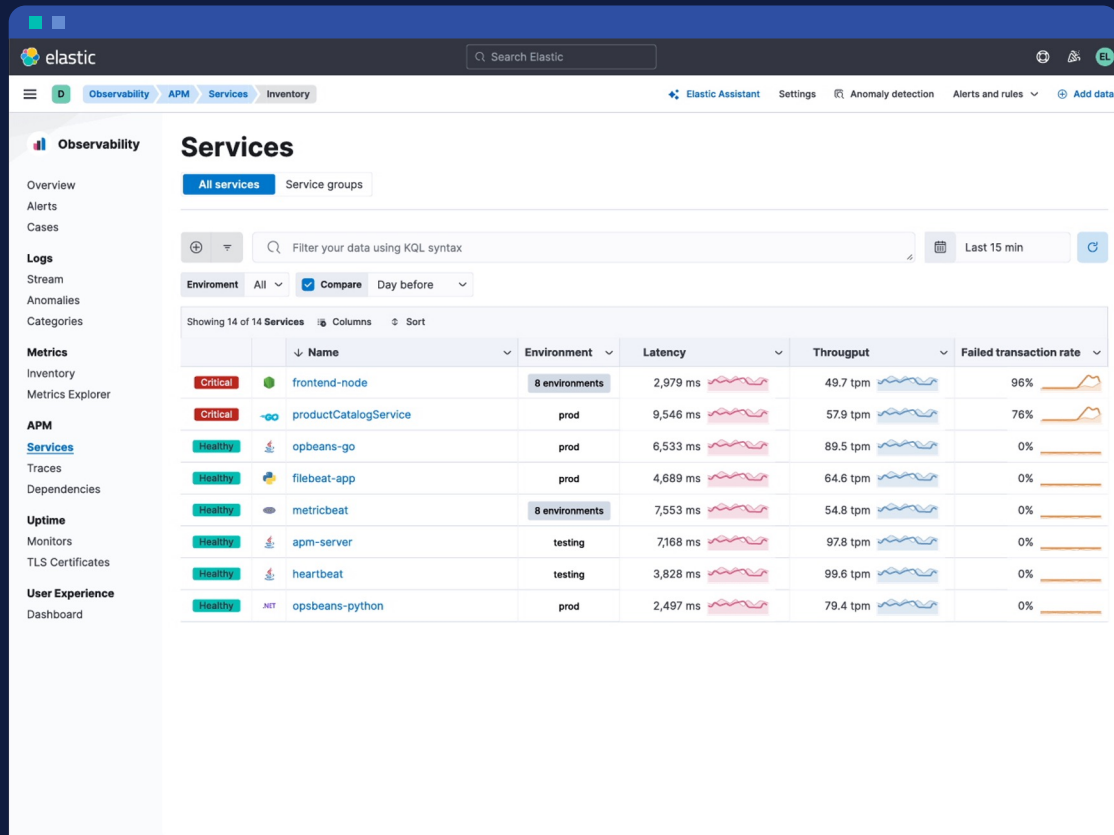
Elastic in Financial Services

FSI Use Cases & Customers

● **Searching for relevant** payments, investments transactions, and services

● **Analyzing data** for a more complete view of customers, users, transactions, trades, (incl. fraud/AML, customer service, etc)

● **Unified Observability & Security** to find answers fast, resolve problems, and protect their customers and reputation

● **Leveraging GenAI** and Elastic's unique capabilities to advance these use cases and more...

elastic

Wells Fargo accelerates digital innovation to put customers first with Elastic Observability

Industry: Financial Services **Location**: USA

"Elastic gives us the confidence to build and deploy innovative solutions faster."

Joe Korchmar
Distinguished Engineer
Wells Fargo
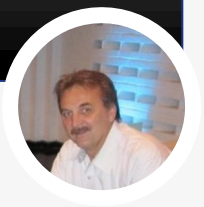
CUSTOMER BIO

One of the four largest banks in the U.S., **Wells Fargo** has approximately 4,900 branches, 12,000 ATMs, and 70M customers worldwide, including one in three U.S. households.

THE CHALLENGES

- Tracking business to business (B2B) and business to consumer (B2C) financial transactions in near real-time.
- Accelerating financial services time to market.

THE ELASTIC SOLUTION

- Wells Fargo monitors its applications and the back-end services with Elastic to track KPIs, customer responsiveness, application availability, and MTTR.
- With distributed tracing through **Elastic Observability**, Wells Fargo operations and development teams have improved insights and greater confidence when bringing new capabilities and applications to market.

THE OUTCOMES

- Ability to analyze application flows in near real-time
- Provides visibility to development and operations teams to quickly identify root cause, slow performing code, and resolve issues faster.
- Monitor and address events across all systems in near real time and focus attention on the areas that have the greatest impact on the bank's operating costs and revenues.

READ THE STORY

![IBM logo]

**Conversational Search with**

watsonx Discovery

Combining IBM's market leading conversational search experience, and large language models with Elastic's powerful and flexible retrieval engine.

- **Natural language search**
- **Federated across locations**
- **Vector search combining multiple data sources**

elastic

What's Next for Search?

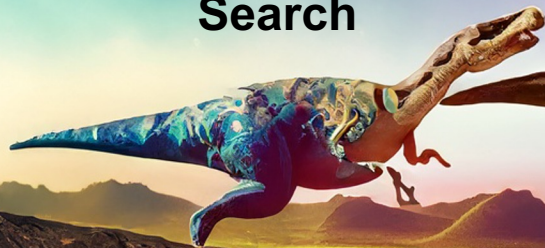From investing in the **core** building blocks of Search + AI
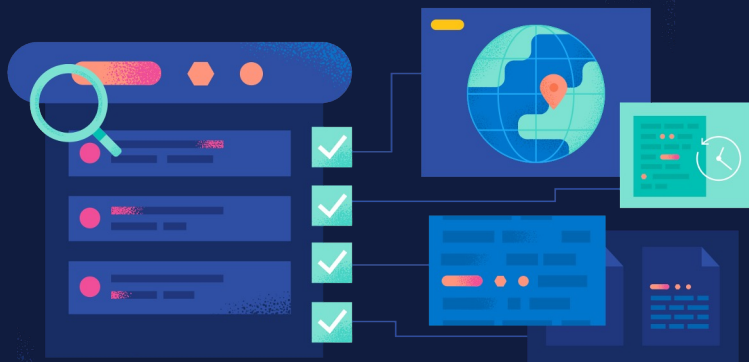
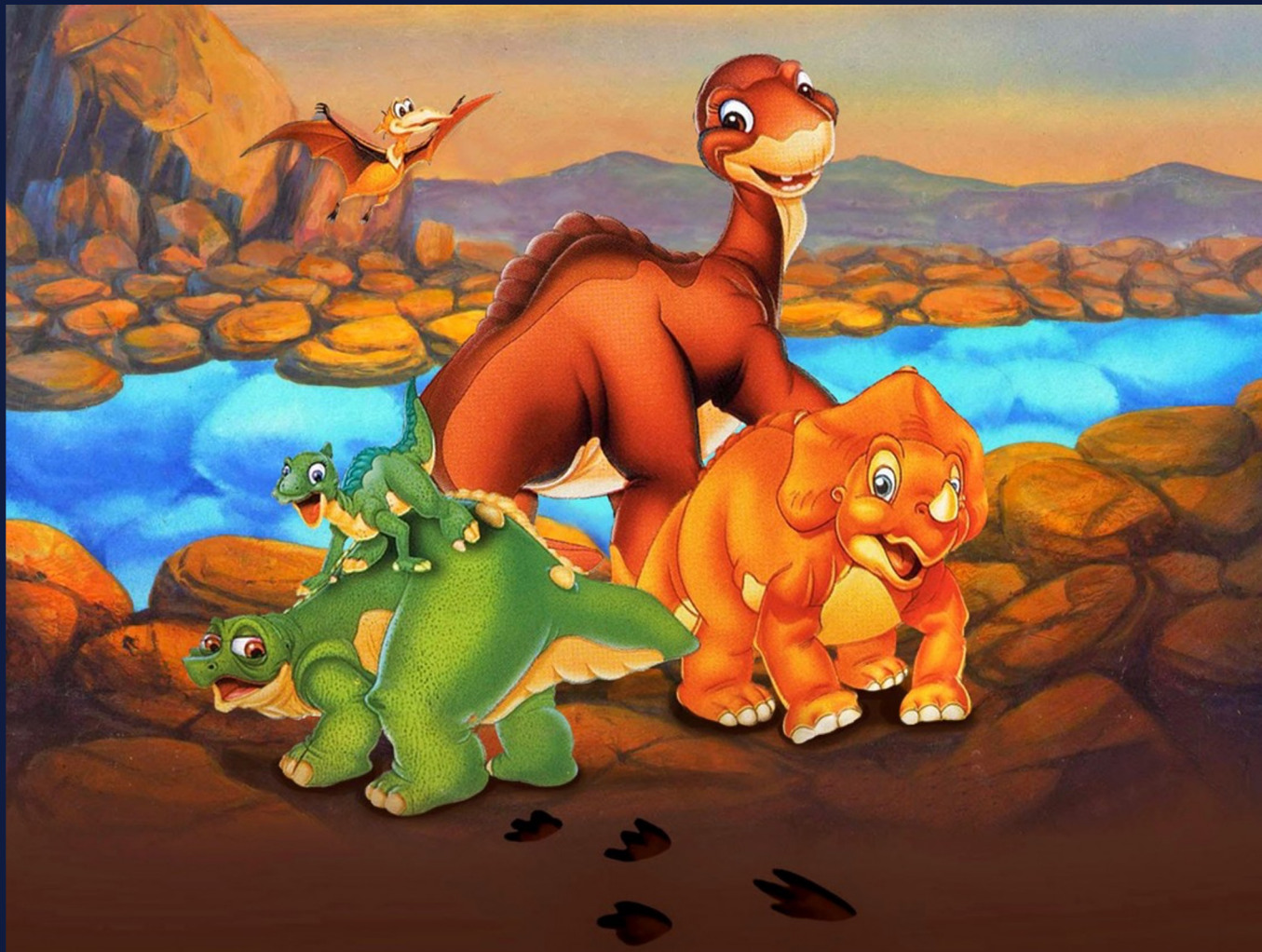To making it **easy** to build the **best** Search + AI experiences

elastic