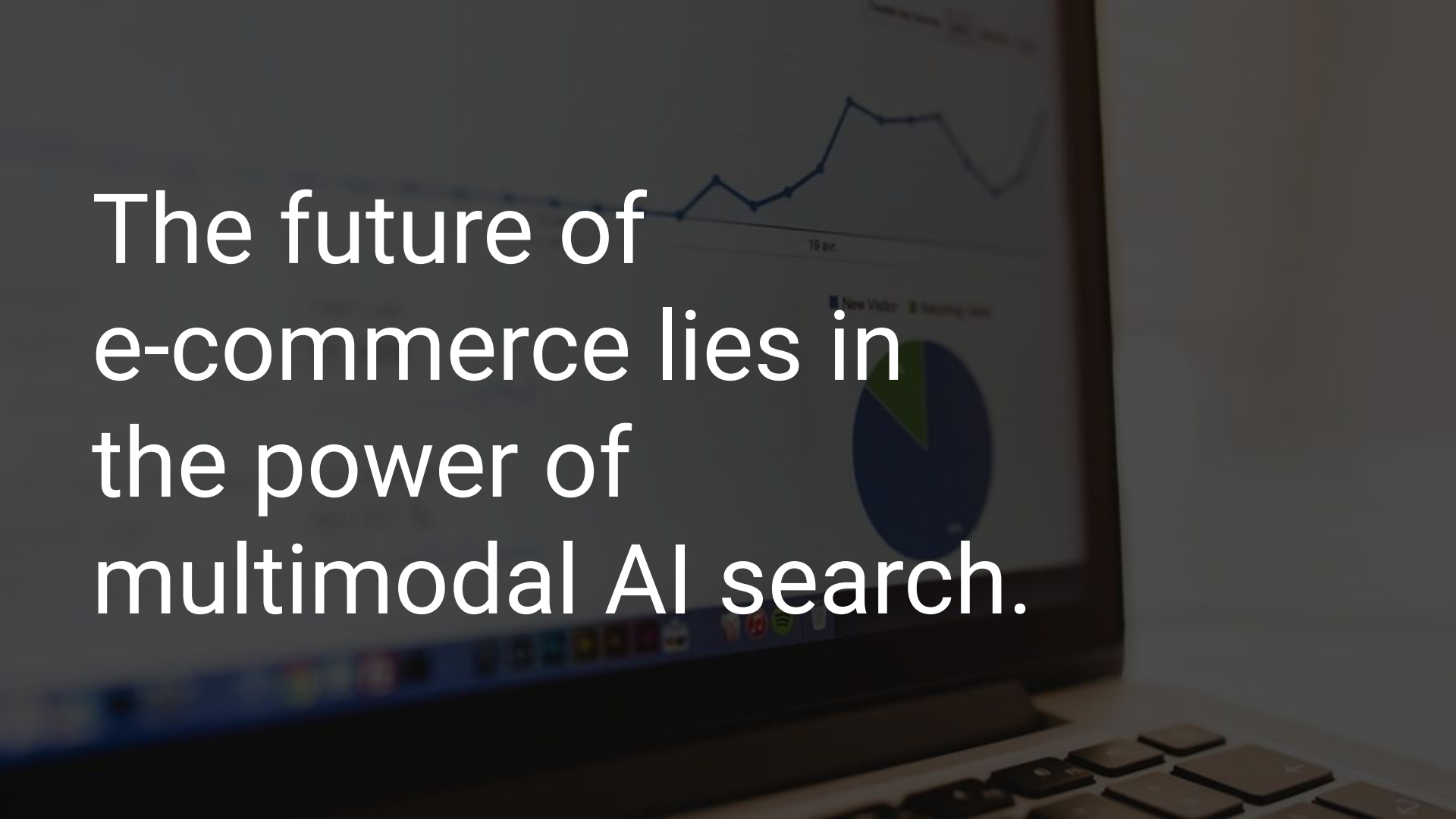# Multimodal AI search

The future of e-commerce lies in the power of multimodal AI search.

The problem

Current search methods are text-based and lack user-friendly features

Existing search systems do not provide personalized recommendations.

Customers often get irrelevant or incomplete search results.

Search is not multi-lingual by default

Relies of metadata of products and can have issues with human involvement

The solution

Automatically generate product metadata directly from images thus eliminating human error

Hybrid search to combine keyword search and vector search thereby improving search results and reranking finally to further refine the results

The team

Anil Matcha

Backend Developer

Ankur Singh

Frontend developer

How it works

Step 1

Generate metadata from images using Vertex api with Gemini

Step 2

Create a vector index for the generated metadata. Build a hybrid retriever combining keyword search and vector search.

Step 3

Rerank the results finally to further refine the results. Monitor the results output with Trulens

Technologies Used

Google Vertex api - Gemini modal for image understanding with multi-modal capabilities

LlamaIndex - For hybrid search combing keyword and semantic search and for reranking final results

Trulens - For processing user queries and help in improving the prompts on a regular basis by continuous feedback
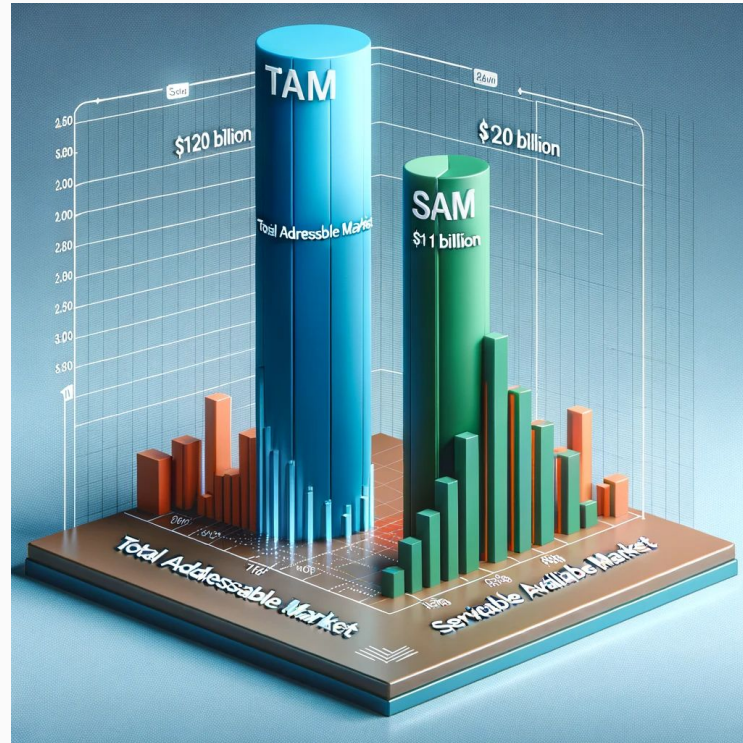
Market Size

Total Addressable Market (TAM)
- 24 million eCommerce sites worldwide.
- Average $5,000 per site annually.
- TAM: 24 million sites x $5,000/site = $120 Billion

Serviceable Available Market (SAM)
- 100,000 targeted eCommerce platforms.
- SAM: 100,000 platforms x $10,000/platform = $1 Billion

Revenue model

Hybrid Model

Combining Subscription with Pay-Per-Use for flexibility and scalability.

Key Revenue Streams

Monthly subscription fees.

Additional: Overage charges for API calls beyond plan limitsValue Proposition Alignment

Pricing Tiers

Starting from 49$/month - 10,000 api calls to 199$/month - 50,000 api calls

Scalable Enterprise options for larger businesses with higher demands.

Why now?

- In 2023, global eCommerce sales are expected to reach $5 trillion, a 20% increase from the previous year.
- 40% of online shoppers now use image and voice search in their buying journey.
- Recent breakthroughs in AI have enhanced the accuracy and efficiency of multimodal search technologies.
- eCommerce platforms with advanced search features see a 30% higher conversion rate.