GENERATIVE AI MEET UP #4

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Getting Started with Multimodality

"Aligning humans is more challenging in comparison to aligning artificial intelligence."

- Pedro Domingos

Let’s Align

Outline

Multi-Model LLMs

Use Case [DataLyse from Came Labs]

Multi-Model LLMS

Large Multimodal Models (LMMs)

Are large models that can process and generate different types of data, such as text, images, audio, and video

Examples

GPTV(ision)

LLaVA

Gemini

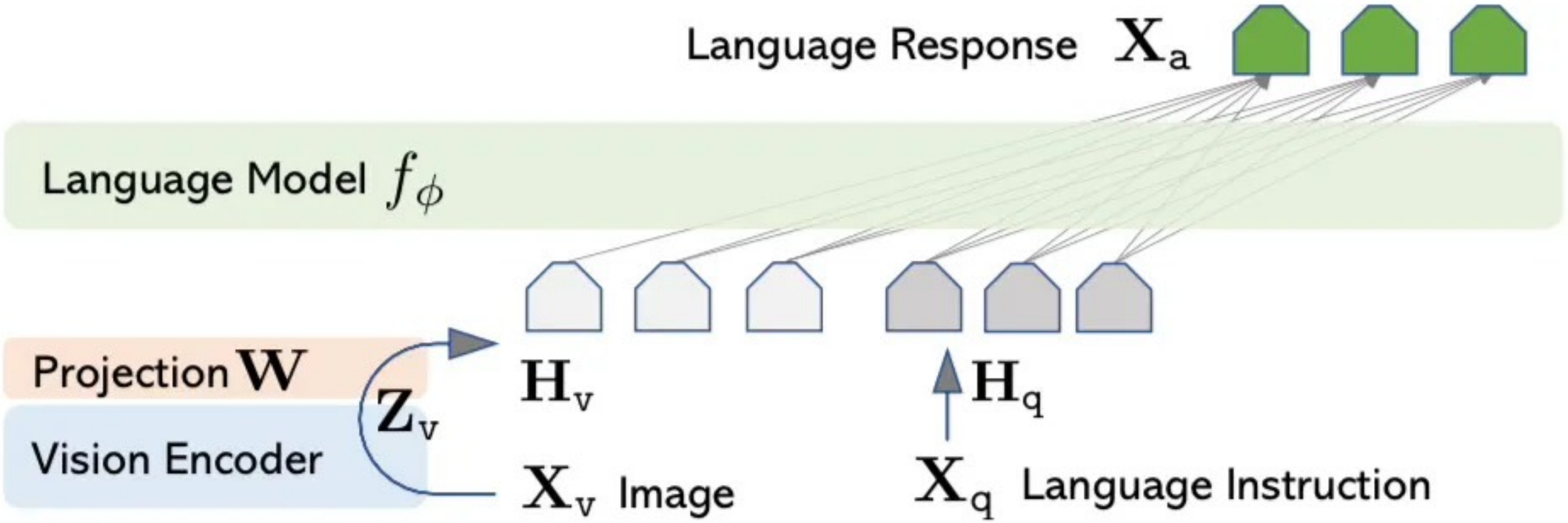
LlaVA [Large Language and Vision Assistant]

LLaVA is an advanced AI model that combines a vision encoder and large language models for general-purpose visual and language understanding.

LLaVA [Large Language and Vision Assistant]

LLaVA connects a vision encoder (CLIP-ViT [Jan, 2021 by OpenAI]) and LLM (Vicuna[Feb 2023]) for general-purpose visual and language understanding.

LLaVA [Large Language and Vision Assistant]



Vision Encoder [CLIP]

This part is responsible for analyzing images and extracting crucial information needed for various tasks.

Language Decoder [Vicuna]

The language decoder takes information from the vision encoder and any text instructions and crafts a response that you can easily understand.

LlaVA [Large Language and Vision Assistant]

LLaVA is the product of visual instruction tuning.

Training Stages

Stage 1:

Pre-training for Feature Alignment

Stage 2:

Fine-Tuning End-to-End

LLaVA Capabilities

Mathematical reasoning over numerical problems

Generating code from sketches

OCR

ScienceQA

Medical Imaging

LlaVA [Large Language and Vision Assistant]

Can be fine tuned for specific tasks e.g LLaVA-Med

LlaVA [Large Language and Vision Assistant]

Can learn to use tools e.g LLaVA-PLUS

Demo

https://llava-vl.github.io/

Local Access

https://ollama.ai/

USE CASE

The Big Picture

- Learn different tools e.g Excel, Python, Power BI
  - Sufficient knowledge in Statistics
  - High understanding of programming
    - Libraries & Packages
  - Mathematical Formulas
- Time consuming

Say goodbye to time-consuming tasks,

and **hello** to swift, smart analytics with a perfect companion.

Introducing ...

DataLyse

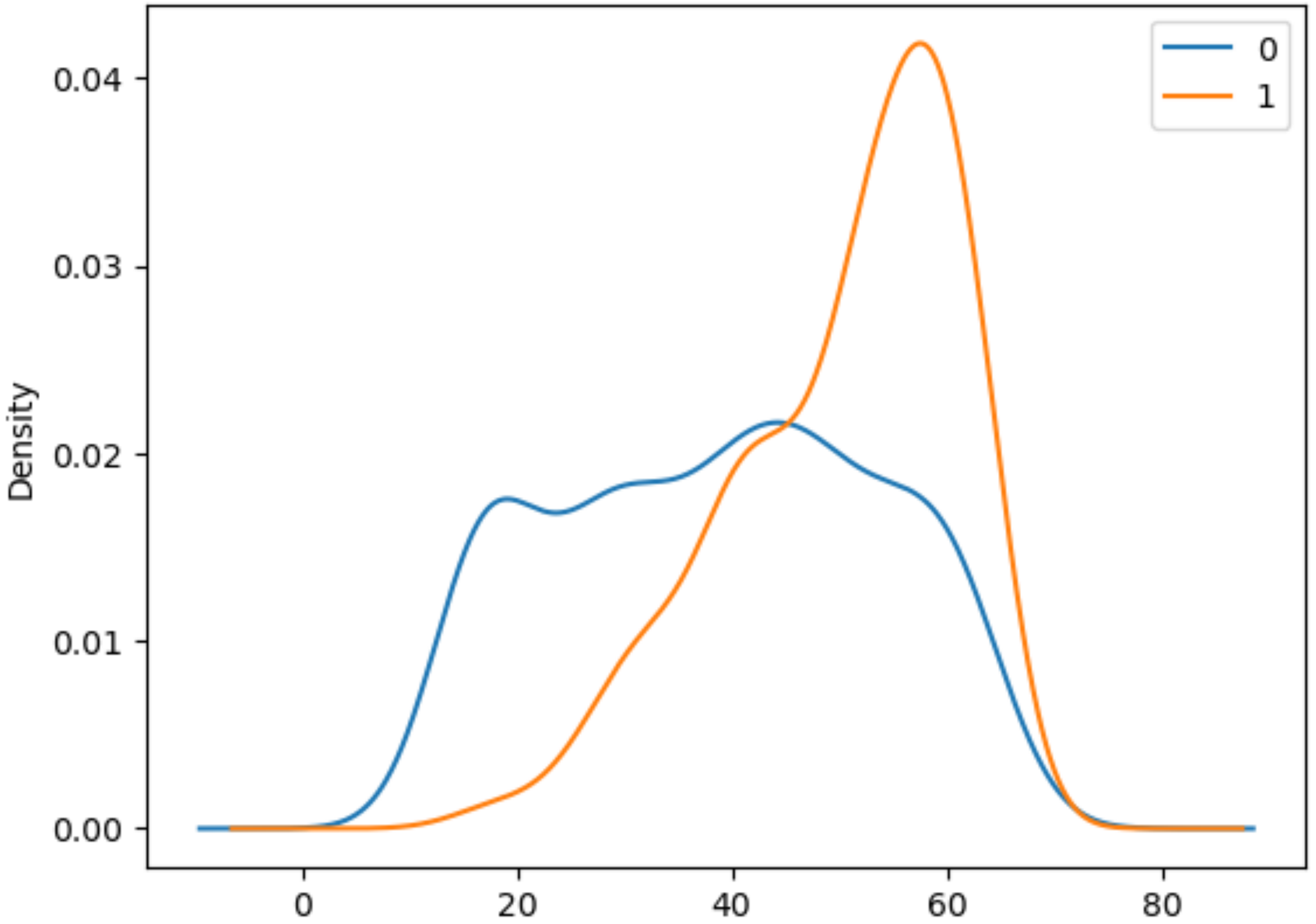
A natural language, general purpose data analytics and machine learning platform.

DataLyse utilises the power of Multi-Model LLMs and LLM Agents to **disconnect** developers from tools and **reconnecting** them to **natural language**.

What is the probability that a person with no family history will suffer from the disease?

Draw a bar plot to depict number of persons having family history of the disease?

Create a 5 machine learning models and compare their performances on classifying the cases, remember to follow proper modeling pipeline.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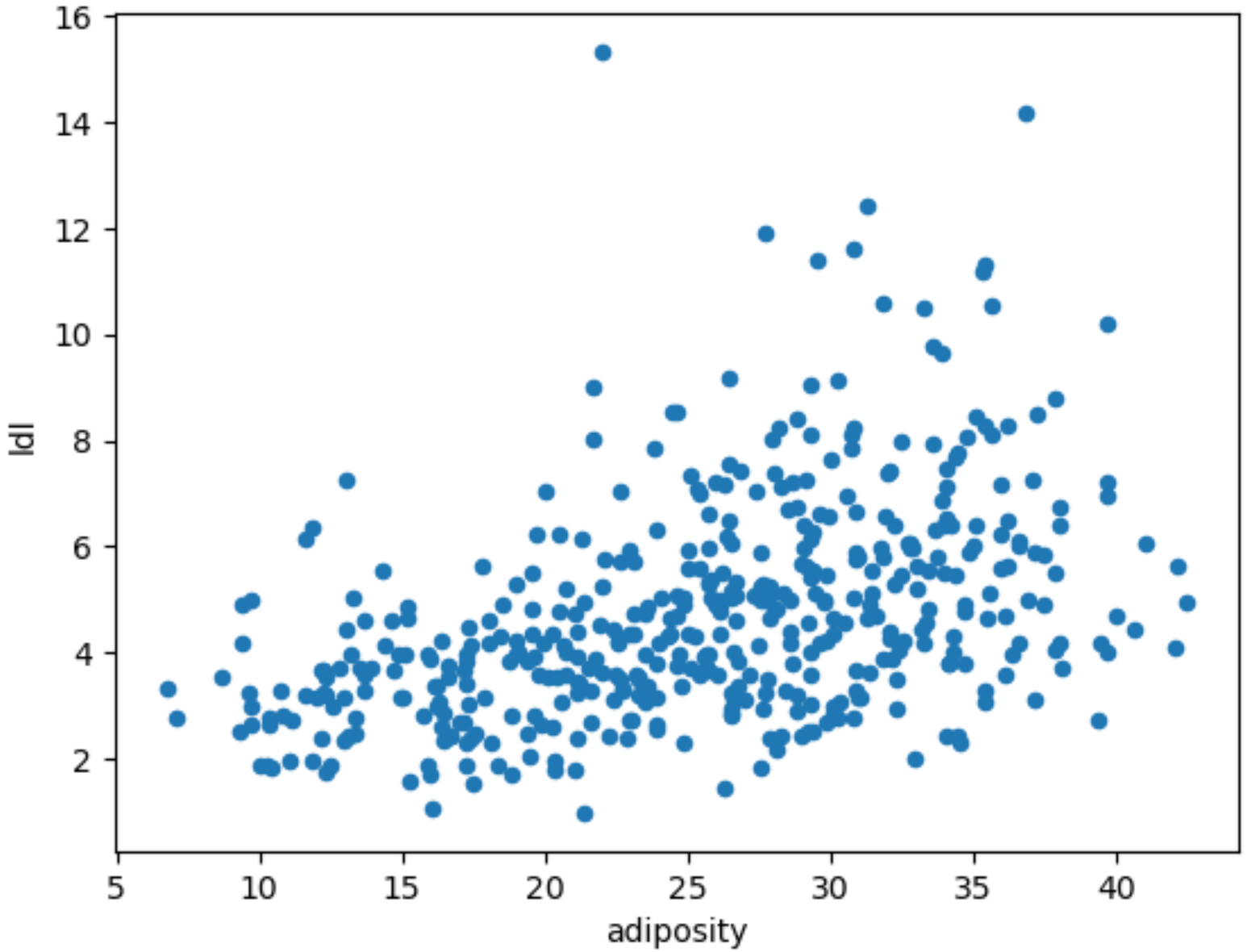
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DataLyse Flavours

- DataLyse Analytics Companion
- DataLyse API
- DataLyse Custom UIs
- DataLyse Model Bulder
- DataLyse Fraud Detector

Analytics Companion

An intuitive natural language tool for data analytics, serving as a no-cost solution for both individuals and businesses.

DataLyse API

API that facilitates the seamless integration of analytics tools with business data sources, ensuring effortless information retrieval and data analysis.

DataLyse Custom UIs

Custom UIs designed for business use cases, offering a convenient way to interact with enterprise data architectures using both natural language and user-friendly interfaces.

DataLyse Model Builder

Create and validate machine learning models effortlessly using natural language instructions for a specific dataset and challenge.

DataLyse Fraud Detector

An advanced model designed for the detection of fraud and anomalies across various types of data.

Waitlist

http://camel-labs.com

Thank You