

# TruEra Challenge

Build LLM Applications with Google Cloud Vertex AI

Cynaptix

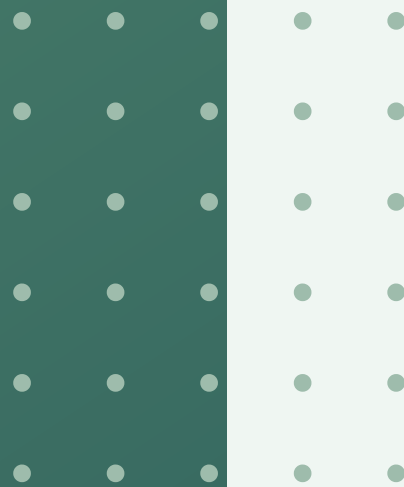
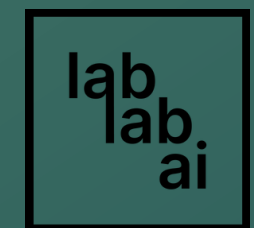


truera



# SHAi

## Sustainable Hydroponics AI



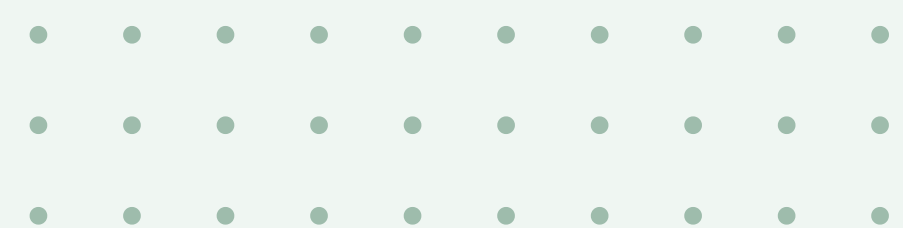


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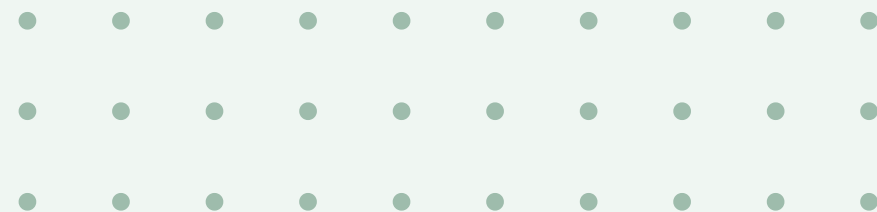
# MEET OUR TEAM



**Pranaov**  
AI DEV



**Harish**  
AI DEV





# HYDROPONICS

Hydroponics is a type of soilless gardening where plants are grown in a nutrient-rich water solution. This method of growing allows for greater control over the growing environment, which can lead to faster growth and higher yields than traditional soil-based gardening.

# SUSTAINABILITY

Hydroponics is a sustainable farming technology that can help reduce water usage, soil erosion, and environmental damage. As the world population grows, the need for more sustainable food production methods becomes increasingly urgent. Hydroponics offers a solution to this problem by providing a way to grow crops in a more efficient and environmentally friendly way.



01.

# PROBLEM VS SOLUTION

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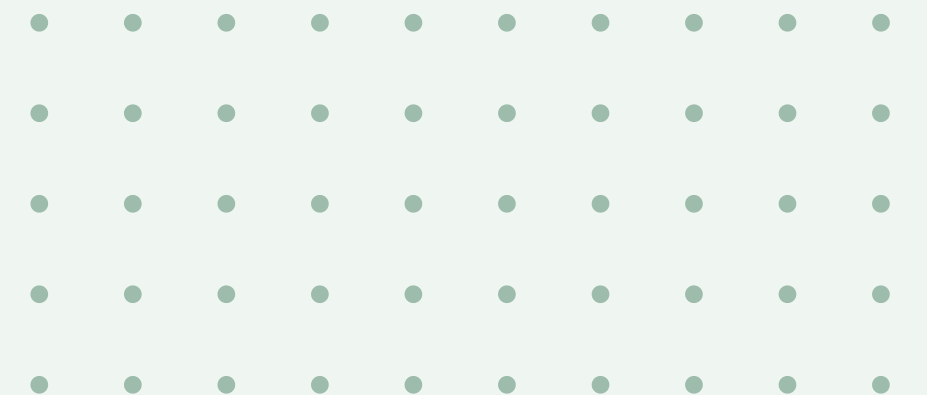


# SOLUTION

To address this challenge, we propose the development of a domain-specific Language Model (LLM) assistant tailored specifically for hydroponic farming. This LLM will serve as an indispensable guide, providing users with comprehensive information on various aspects such as methodologies, best practices, common misconceptions, disease management, and more.

# PROBLEM

In the evolving landscape of hydroponic farming, the lack of a comprehensive and reliable guide, coupled with the prevalence of biased information online, poses a significant barrier to widespread adoption. Bridging this gap is essential to encourage more people to embrace this innovative approach to agriculture.



02.

# PRODUCT

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# Our Product

A domain specific LLM promoting sustainable hydroponics agricultural methods





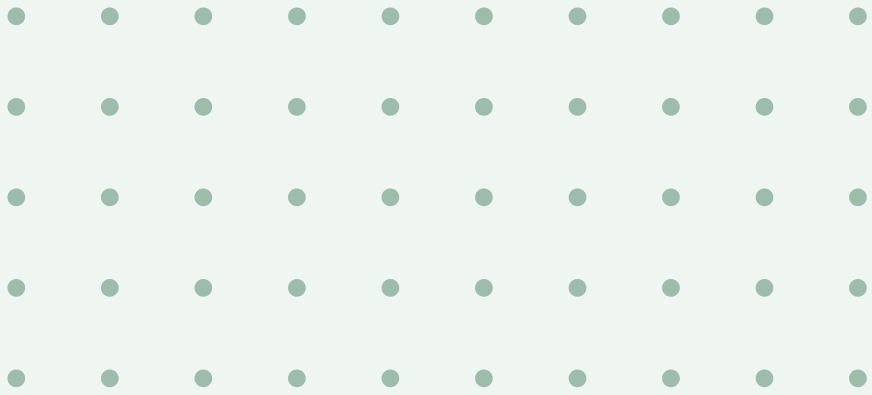
03.

# MARKET & TREND

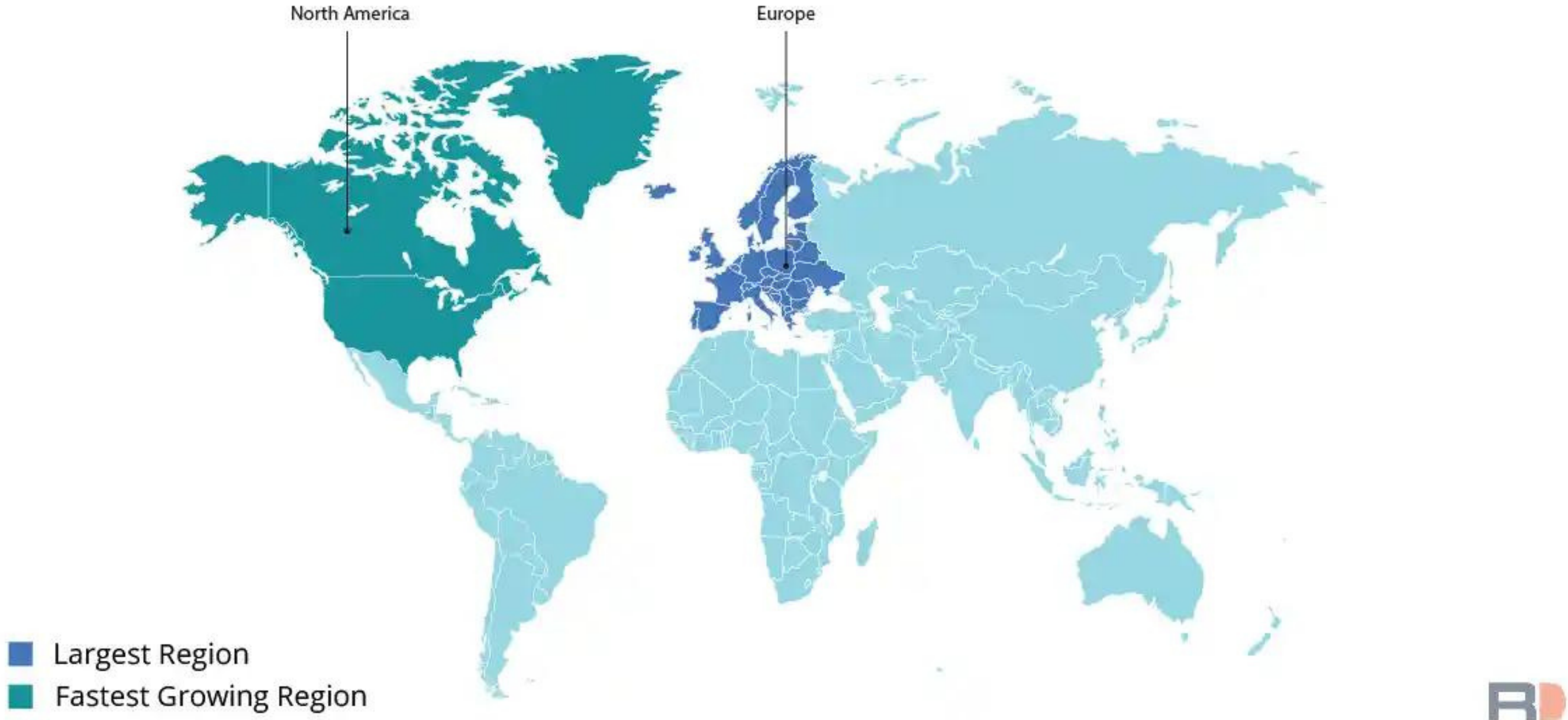
Cynaptix



# MARKET

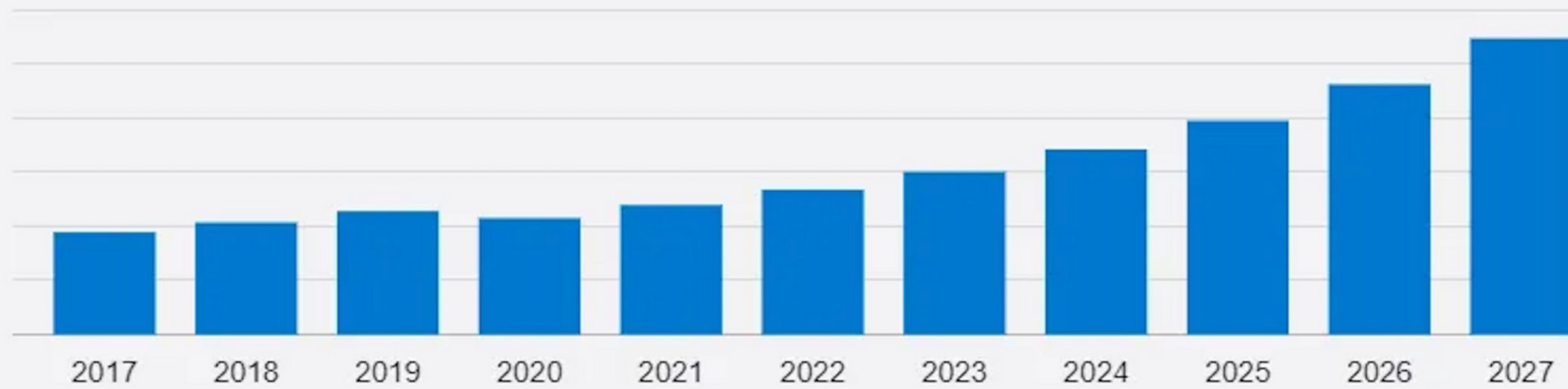


Hydroponics Market- Regional outlook, 2022-2032



# TREND

Market Size Outlook ( USD Million )



2017 : USD **377.41**



**12.4%**

Year-over-Year  
growth rate of 2023



**15.4%**

CAGR 2022-2027



**ACCELERATING**

Growth Momentum



USD **558.97 Mn**

Market size  
growth

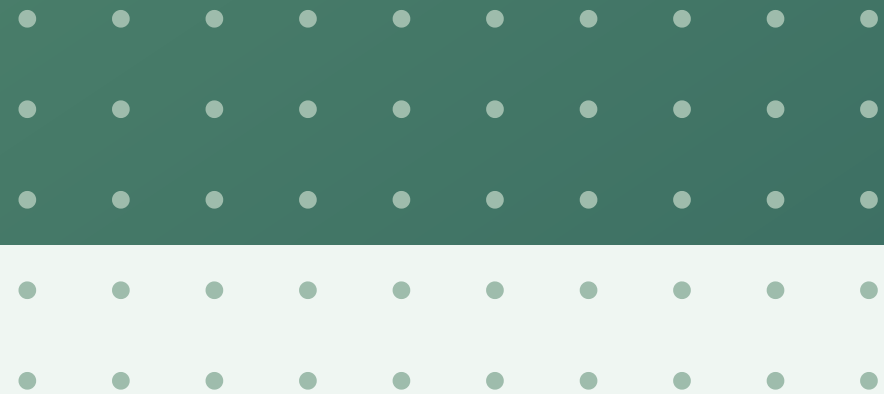
2022 2027



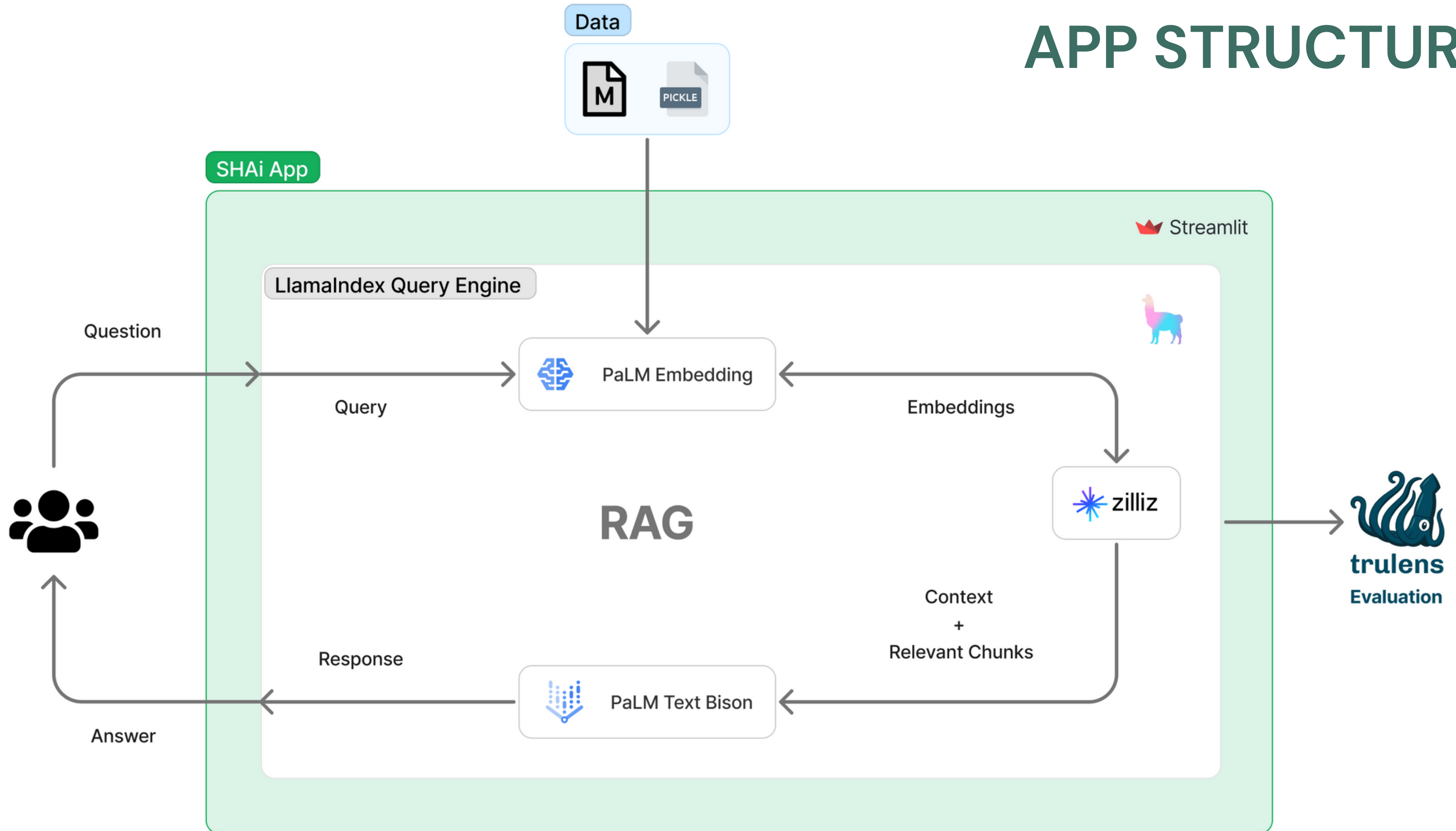
03.

# METHODOLOGY

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# APP STRUCTURE



# TRULENS EVALUATION

Personal 192.168.0.2

trulens

## App Leaderboard

Average feedback values displayed in the range from 0 (worst) to 1 (best).

### SHAi\_App ⓘ

Records	Average Latenc...	Total Cost (USD)	Total Tokens	relevance	groundednes...	qs_relevance	Select App
23	2.83	\$0	0	0.93 ✓ high	0.9 ✓ high	0.7 ⚠ medium	

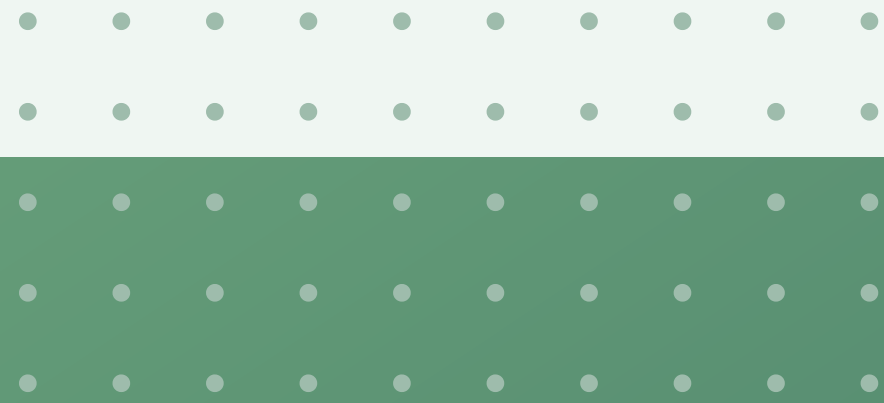
192.168.0.2 Evaluations

## SHAi\_App

Records Feedback Functions

User Input	Response	relevance	qs_relevan...	groundednes...	Latency (Seconds)
"What is hydroponics?"	"Hydroponics is a method of..."	1			4
"What is hydroponics?"	"Hydroponics is a method of..."	1			5
"What is hydroponics?"	"Hydroponics is a method of..."	1	1	1	3
"What is hydroponics?"	"a method of growing plants..."	1	1	1	3
"What is hydroponics?"	"Hydroponics is a method of..."	1	1	1	3
"What is hydroponics?"	"growing plants in water inst..."	1	1	1	2
"What is hydroponics?"	"growing plants in water inst..."	1	1	1	3
"What is hydroponics?"	"growing plants in water inst..."	1	1	1	3
"What is hydroponics?"	"growing plants in water inst..."	1	1	1	2
"What is hydroponics?"	"growing plants in water inst..."	1	1	1	3
"What is hydroponics?"	"growing plants in water inst..."	1	1	1	3
"What is hydroponics?"	"growing plants in water inst..."	1	1	1	3
"What is aquaponics?"	"Aquaponics is a combinatio..."	1	0.3	0	4
"Give me suitable conditions..."	"pH range: 5.5-6.5, EC/PPM: ..."	1	0.3	1	2
"Give me suitable conditions..."	"pH range: 5.5-6.5\nEC/PPM:..."	1	0.55	1	2
"Guide me to setup a hydrop..."	"Here are the steps to set up ..."	1	1	0.888888889	6
"How much days will it take ..."	"6-8 weeks"	1	0.3	1	2
"How is hydroponics sustain..."	"plants are more densely sp..."	0.8	0.9	1	2
"what is lettuce?"	"Lettuce is one of the most p..."	0.2	0.1	1	1
"What is strawberry?"	"a perennial plant of the ros..."	1	0.2	0.5	1
"Tell more about Kale?"	"Kale has been hailed as a s..."	0.7	0.2	0.8	2
"Summarize about hydropon..."	"Hydroponic systems are an ..."	0.8	0.4	1	4





AI App Demo

THANK YOU

Cynaptix



[harishchandranmanohar@gmail.com](mailto:harishchandranmanohar@gmail.com)