AI AS A SERVICE : RECENT TRENDS IN DATA SCIENCE

A COMPREHENSIVE ANALYSIS

PRESENTERS

G. GANGANNA - 234G5A3205@SRIT.AC.IN

J. SATEESH REDDY - 234G5A3208@SRIT.AC.IN

B. SRI VAISHNAVI - 234G5A3214@SRIT.AC.IN

SRINIVASA RAMANUJAN INSTITUTE OF TECHNOLOGY, ANANTAPUR, ANDHRAPRADESH

ABSTRACT

In the age of big data, businesses are increasingly turning to AI as a Service (AIaaS) for affordable and scalable AI solutions. AIaaS providers offer pre-built AI models and services that enable businesses to implement and scale AI techniques without the need for significant investments in infrastructure or expertise. OpenAI's recent decision to offer its GPT-3 language model as an API is a notable example of this trend.

This paper explores the evolution, current state, and future trends of AIaaS. It discusses how businesses can leverage AI services to build chatbots, predict inventory, and implement other AI-driven solutions. The future of AIaaS is envisioned as a landscape of well-defined and self-contained functions, where businesses can easily access and integrate domain expert AI models for specific solutions.

However, one of the biggest challenges for AIaaS is ensuring compliance with regulatory requirements. Businesses must meet their compliance obligations to fully leverage AIaaS for building AI solutions at speed and scale.

The market for AIaaS is projected to grow rapidly, reaching $43.298 billion by 2026 with a CAGR of 48.9% from 2021-2026. This indicates a promising future for AIaaS, with more businesses expected to adopt AI technologies with the help of AIaaS solutions.

INTRODUCTION

- AI transforms businesses by extracting insights from data, but

traditional AI is costly.

- AI as a Service (AIaaS) democratizes AI, offering services like

machine learning to all businesses.

- OpenAI's GPT-3 API exemplifies this trend.

- The paper explores AIaaS's evolution, benefits, and challenges,

including compliance.

Literature survey

1. **Objective:**

   Explore current AI service integration practices.

2. **Key Factors:**

   Functional Suitability (effective task performance) and Interoperability (smooth communication).

3. **Role:**

   Crucial for AIaaS success, ensures services function and interact seamlessly.

4. **Proposed Architecture:**

   Focuses on suitability and interoperability for maximum AIaaS benefits.

5. **Impact:**

   Ensures effective AI service function, maximizing AIaaS benefits for businesses.

Architecture and Methodology

Architecture:

1.AI Service Layer

2.Data Integration Layer

3.Application Layer

4.Key Components

       API Gateway

       Data pipeline

       Model repository

Methodology:

To conduct the literature survey, various academic databases, including Google Scholar, IEEE Xplore, were searched using keywords such as "AI as a Service," "AIaaS," and "artificial intelligence service providers." Relevant articles, papers, and books were selected based on their relevance to the topic and recency of publication.
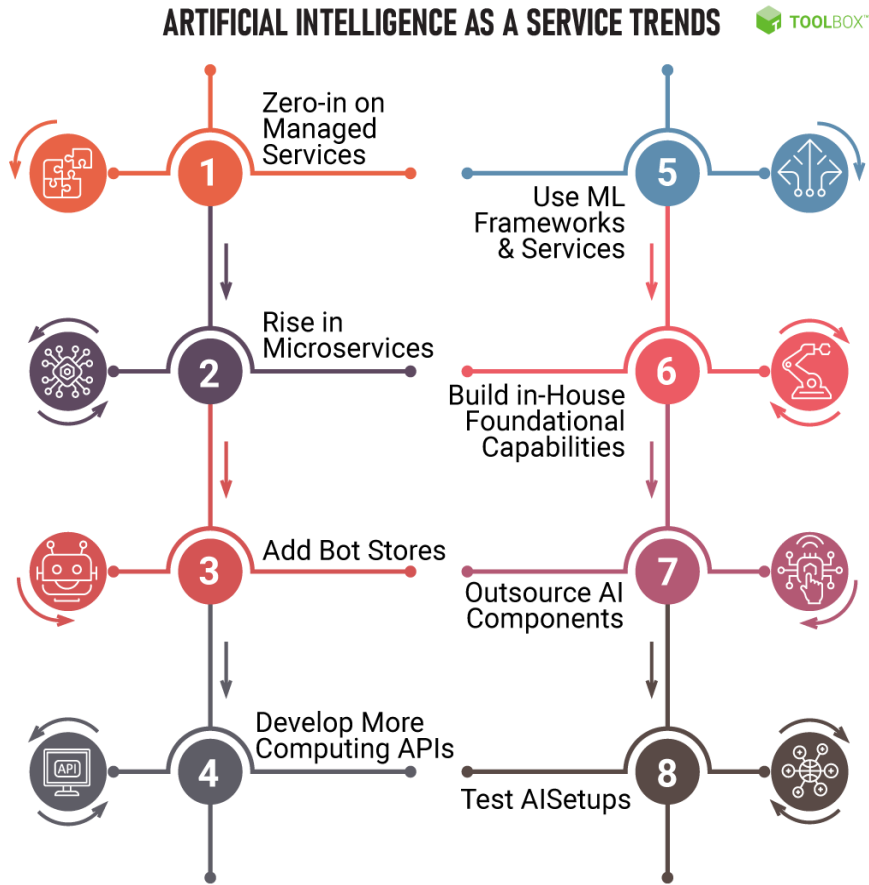
Result:

The integration architecture simplifies system communication, ensuring

effective collaboration. It reduces integration complexities like data

inconsistencies and communication failures. Implemented in the Go

kind platform, it has shown positive outcomes.

Discussion:

The study effectively addressed AIaaS integration

challenges but acknowledges limitations. Further

exploration of diverse AIaaS providers and environments

could enhance integration. Security considerations are

crucial for data integrity and confidentiality..

ARTIFICIAL INTELLIGENCE AS A SERVICE TRENDS

TOOLBOX

1 Zero-in on Managed Services

5 Use ML Frameworks & Services

2 Rise in Microservices

6 Build in-House Foundational Capabilities

3 Add Bot Stores

7 Outsource AI Components

4 Develop More Computing APIs

8 Test AISetups

CONCLUSION:

In conclusion, this study highlights the importance of functional

suitability and interoperability in the integration

 of AIaaS into existing systems. By designing an integration

architecture that focuses on these factors, organizations can

effectively integrate AIaaS into their systems, leading to improved

efficiency and performance.

References:

Articles

1. Name : Artificial Intelligence as a Service (AI-aaS) on Software-Defined Infrastructure

Authors : Saeedeh Parsaeefard and others

Publishers : IEEE - 2009

2. Name : Artificial intelligence as a service: Legal responsibilities, liabilities, and policy

challenges

Authors : Jennifer Cobbe and others

Publishers : IEEE - 2021

3. Name : Top Data Science Trends Reshaping the Industry in 2024

Author(s) : Simplilearn

 Publishers : simplilearn.com - 2024

Thanks!