

Architecture Decision Record (ADR) - LLM Wrapper

Decision Summary

To enhance the functionality and flexibility of our Fish Watch System's Cloud Computing Services, we have decided to introduce a Language Model Wrapper (LLM Wrapper). This decision supports the processing of different types of data, including unstructured, structured, and metadata, from the Cloud Database for further analysis by the AI Model and Intelligent Agent. The LLM Wrapper also facilitates the utilization of multiple language models based on specific requirements.

Context

Our Fish Watch System relies on Cloud Computing Services to manage and process data collected from various sources, including sensors, cameras, and local databases. The Cloud Database stores diverse types of data, including raw data, structured data, and metadata. To effectively utilize this data for analysis and decision-making, we need a mechanism to process different data types and leverage language models efficiently.

Decision

We will introduce a Language Model Wrapper (LLM Wrapper) as part of our Cloud Computing Services for the Fish Watch System, with the following specifications:

1. **Data Processing:** The LLM Wrapper will be responsible for processing various types of data retrieved from the Cloud Database, including unstructured data, structured data, and metadata. It will prepare the data for further analysis by the AI Model and Intelligent Agent.
2. **Integration with AI Model and Intelligent Agent:** The LLM Wrapper will facilitate seamless integration with the AI Model and Intelligent Agent, providing them with processed data for analysis and decision-making. It will receive ML algorithm results from the Intelligent Agent for future reference and analysis.
3. **Language Model Flexibility:** The LLM Wrapper will support the utilization of multiple language models based on specific requirements. This flexibility allows us to choose the most suitable language model for processing different types of data and achieving optimal results.

Rationale

- **Data Versatility:** Introducing an LLM Wrapper enables us to handle diverse types of data effectively, including unstructured, structured, and metadata, enhancing the versatility of our data processing capabilities.
- **Integration Efficiency:** By integrating the LLM Wrapper with the AI Model and Intelligent Agent, we streamline the data processing workflow and ensure efficient communication between different components of the system.
- **Adaptability to Requirements:** The ability to use multiple language models based on specific requirements allows us to adapt our data processing approach to different scenarios and optimize performance accordingly.

Consequences

- **Enhanced Data Analysis:** The introduction of the LLM Wrapper enhances our system's ability to analyze diverse types of data, leading to more comprehensive insights and informed decision-making.
- **Improved System Flexibility:** With support for multiple language models, our system becomes more flexible and adaptable to evolving requirements and changing data processing needs.
- **Potential Complexity:** Integrating the LLM Wrapper adds an additional layer of complexity to our system architecture, requiring careful design and implementation to ensure seamless operation.

Related Decisions

- This decision aligns with our overall architecture strategy for the Fish Watch System, which emphasizes scalability, performance, and adaptability to diverse data types and processing requirements.