

UDACITY

Introduction to Generative AI with AWS

Project Documentation Report

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Complete the answers to the questions below to complete your project report. Create a PDF of the completed document and submit the PDF with your project.

Question	Your answer:
Step 2: Domain Choice What domain did you choose to fine-tune the Meta Llama 2 7B model on? Choices: <ol style="list-style-type: none">1. Financial2. Healthcare3. IT	IT Question :- What are the key challenges in ubiquitous data management, and how do they impact the development of applications in areas such as mobility, context-awareness, and collaboration?
Step 3: Model Evaluation Section What was the response of the model to your domain-specific input in the model_evaluation.ipynb file?	key challenges in ubiquitous data management that impact the development of applications in areas such as mobility, context-awareness, and collaboration include: <ol style="list-style-type: none">1. Resource limitations: Ubiquitous computing devices often have limited resources in terms of processing power, storage, and battery life. This requires adapting traditional data management approaches to be more efficient and resource-conscious.2. Varying and intermittent connectivity: Ubiquitous devices may experience frequent disconnections and changes in network connectivity as users move between different environments. This poses challenges for maintaining data availability, consistency, and synchronization.3. Mobile users: The mobility of users and devices introduces challenges in tracking user context, location, and preferences to enable personalized

	<p>and location-aware services.</p> <ol style="list-style-type: none"> 4. Dynamic collaborations: Ubiquitous computing environments often involve dynamic collaborations between users and devices, requiring flexible and adaptive data management solutions to support these changing interactions. 5. Handling unstructured data: Ubiquitous computing generates a vast amount of unstructured data from various sources, such as sensors, social media, and multimedia. Traditional data management techniques focused on structured data may not be sufficient, necessitating the development of entity-aware data management approaches. 6. Scalability and efficiency: As the volume and variety of ubiquitous data continue to grow, data management solutions must be scalable and efficient to handle the increasing demands, especially in areas like social networks, location-based services, and sensor data collection. 7. Privacy and security: Ubiquitous data often contains sensitive personal information, requiring robust privacy and security measures to protect user data and ensure trust in ubiquitous computing applications. These challenges must be addressed to enable the development of seamless, context-aware, and collaborative applications that can truly leverage the potential of ubiquitous computing.
<p>Step 4: Fine-Tuning Section After fine-tuning the model, what was the response of the model to your domain-specific input in the model_finetuning.ipynb file?</p>	<p>The key challenges in ubiquitous data management revolve around adapting traditional data management techniques to the requirements of ubiquitous computing environments. These challenges impact the development of applications in several areas:</p> <ol style="list-style-type: none"> 1. Mobility: The constantly moving nature of devices in ubiquitous computing necessitates the ability to deliver and

	<p>receive data from different and changing locations. This requires solutions such as proxy systems for seamless handoffs and intelligent data staging to place data close to users when needed.</p> <ol style="list-style-type: none">2. Context-awareness: Ubiquitous computing devices must be aware of the environment and user tasks to provide relevant assistance. This requires processing real-time data streams from various sensors and personal information management applications to infer user context and preferences.3. Collaboration: Supporting dynamic groups of users in collaborative work requires adaptivity, synchronization, and reliable storage of shared data. Systems must handle communication, data sharing, and conflict resolution in real-time or asynchronously while maintaining consistency and availability. <p>Overall, addressing these challenges involves developing adaptive data management techniques that can cope with resource limitations, varying connectivity, and dynamic environments characteristic of ubiquitous computing.</p>
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