Intel Unnati Industrial Training Program REPORT

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About the Program:

The Intel Unnati Industrial Training Program is a significant initiative by Intel aimed at fostering innovation and enhancing technical skills among students and professionals. The program is designed to bridge the gap between industry requirements and academic learning, providing participants with hands-on experience and exposure to cutting-edge technologies.

Objectives:

Skill Development

Industry Readiness

Innovation and Research

Assigned Problem Statement:

Introduction to GenAI and Simple LLM Inference on CPU and finetuning of LLM Model to create a Custom Chatbot.

About the problem statement:

Generative AI (GenAI) focuses on creating new content based on learned data patterns, with Language Models (LLMs) like GPT being prominent examples that generate human-like text. Simple LLM inference on a CPU allows for accessible text generation without specialized hardware. Fine-tuning involves adapting a pre-trained model to a specific dataset, enhancing its performance for particular tasks or industries. The process includes selecting a pre-trained model, preparing a relevant dataset, fine-tuning with adjusted hyperparameters, evaluating performance, and deploying the model. Custom chatbots, created through fine-tuning, offer improved user experiences and domain-specific expertise, automating tasks and boosting efficiency. This approach leverages the power of AI to provide sophisticated, tailored interactions.

Total time taken for fine-tuning the model: 3.5 hours.

Total time taken for entire code preparation : 5 hours.

Benefits of the program:

Enhanced Employability.

Networking Opportunities

Access to Intel Resources

Summary:

This report introduces Generative AI (GenAI) and its application in creating custom chatbots using Language Models (LLMs). It covers the process of performing simple LLM inference on CPUs and outlines the steps for fine-tuning pre-trained models to adapt to specific domains or tasks. For viewing the code please go to the provided Github repository link.

Date of Completion : 08/07/2024

Code:

https://github.com/Adityabaan/Intel-Chatbot