**Sushil Kumar**

2020CSB1132  
CSE, IIT Ropar

The Gita ChatBot

# Overview

The Gita ChatBot is an interactive chatbot designed to provide information, answer questions, and engage in conversations related to the Bhagavad Gita, an ancient Hindu scripture. This chatbot is a useful tool for those who want to learn more about life lessons and philosophy through Bhagavad Gita..

# Requirements

Before using the Gita ChatBot, you need to ensure that you have the following requirements in place:

1. **Python 3.x** installed on your system.
2. **Pip package** manager installed
3. **llama-2-7b-chat.ggmlv3.q8\_0.bin** language model from Hugging Face. This model is required for chatbot functionality. It should be present in your main project directory.

# Configuration & setup (On Local Machine)

**Follow these steps to set up and install the Gita ChatBot:**

* Clone the repository to your local machine.
* Navigate to the project directory.
* Download and move llama-2-7b-chat.ggmlv3.q8\_0.bin to your main repo directory.
* Create a virtual environment using: python -m venv chatbotenv.
* Activate the virtual environment: chatbotenv\Scripts\activate (For Windows) or source chatbotenv/bin/activate (For Linux/macOS).
* Install all the requirements using: pip install --trusted-host pypi.python.org -r requirements.txt.

**Now to Train the llama2 with The Bhagavad Gita and Open the Chatbot, run:**

* python ingest.py: It is used to create a vector store and train the llama2 with the provided Bhagavad Gita.
* chainlit run model.py -w: Opens the web app user interface of The Gita Chatbot on your local machine.
* Interact with the chatbot by typing in your questions or messages related to the Bhagavad Gita.

**Command Set after moving to the main directory:**

* python -m venv chatbotenv
* chatbotenv\Scripts\activate (For Windows)
* source chatbotenv/bin/activate (For Linux/macOS)
* pip install --trusted-host pypi.python.org -r requirements.txt
* python ingest.py
* chainlit run model.py -w

# Docker Image/repo

This repository has been Dockerized, making it easy to run the Gita Bot in a containerized environment. The Docker image is publicly available and can be hosted and used by anyone.

**Docker Image Repository**

You can find the Docker image for this repository at: [**sushil3710/gita\_bot:latest**](https://hub.docker.com/r/sushil3710/gita_bot)

**How to Host the Docker Image**

To host and run the Gita Bot using the Docker image, pull the repo and use the following command: **docker run -p 8080:80 sushil3710/gita\_bot:latest**

# 

# Kubernetes manifest files

The Git Repo and Docker image also contain the deployment.yml and service.yml files, which are used to host the Docker image onto an external IP address.

Use the given commands to host the ChatBot on external servers after pulling the Docker image:

* **kubectl apply -f deployment.yml**
* **kubectl apply -f service.yml**
* **kubectl get deploy -o wide**
* **kubectl get pod -o wide**

Use the last two commands to get the external IP address and port number where the Docker image will be hosted.

Python libraries used

* chainlit
* pypdf
* langchain
* torch
* accelerate
* bitsandbytes
* transformers
* ctransformers
* sentence\_transformers
* faiss\_cpu