**Internship Project Report**

**Name: Abhishek Singh**

**Company: Code Alpha**

# Project Title: Chatbot for FAQs

## Abstract

**The project aims to develop a chatbot capable of answering frequently asked questions (FAQs) related to any topic or product. It initially uses a JSON-based knowledge base and later integrates the Google Gemini API for advanced natural language understanding and dynamic web search capabilities.**

## Objectives

**- Collect FAQ data related to a product or topic**

**- Preprocess text using NLP libraries like NLTK**

**- Match user queries with the closest FAQ using cosine similarity**

**- Integrate Gemini API to answer questions using AI**

**- Develop a basic web UI for chatbot interaction**

## Methodology

**1. FAQ Collection: A set of 50 commonly asked questions and answers were compiled in a JSON format.  
2. NLP Processing: Text is tokenized, cleaned, and vectorized using NLTK and scikit-learn.  
3. Query Matching: Cosine similarity is used to match user input with existing FAQs.  
4. Gemini API: If no match is found or for enhanced capability, Gemini 1.5 or 2.5 API is used to answer the query.  
5. UI: A simple Flask-based web interface allows users to chat with the bot.**

## Technologies & Tools Used

**- Python**

**- Flask**

**- NLTK**

**- scikit-learn**

**- Google Generative AI (Gemini) API**

**- HTML, CSS (for basic UI)**

## Conclusion

**The chatbot successfully answers frequently asked questions using both a static FAQ dataset and AI-powered answers through the Gemini API. This project demonstrates the practical integration of natural language processing and generative AI.**