

2. AI Intern Project Assignment: Voice Bot Development

Project Title:

"Building an Intelligent Voice Bot for Customer Interaction"

Project Objective:

Develop a voice bot capable of handling basic customer queries and interactions, leveraging AI technologies like Natural Language Processing (NLP) and Speech-to-Text/Text-to-Speech systems.

Key Features:

1. Speech-to-Text Conversion

- Integrate a speech recognition system to transcribe user input into text.
- Suggested Tools/Platforms: Google Cloud Speech-to-Text API, OpenAI Whisper, or Mozilla DeepSpeech.

2. Natural Language Understanding

- Process the transcribed text to understand user intent.
- Implement basic intent recognition and entity extraction using frameworks like Rasa, Dialogflow, or Hugging Face Transformers.

3. Response Generation

- Use a rule-based system or a pre-trained language model to generate responses.
- Suggested Tools: GPT-based API (e.g., OpenAI API) for dynamic responses.

4. Text-to-Speech Conversion

- Convert generated responses into speech for the user.
- Suggested Tools/Platforms: Google Cloud Text-to-Speech API, Amazon Polly, or Microsoft Azure TTS.

5. Integration with Backend/Database

- Build a connection to a backend system or database to fetch and update information dynamically based on user queries (e.g., retrieving account details or FAQs).

6. Analytics Dashboard (Optional)

- Track and display key metrics like user queries, response times, and error rates for performance improvement.