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Final Project Documentation

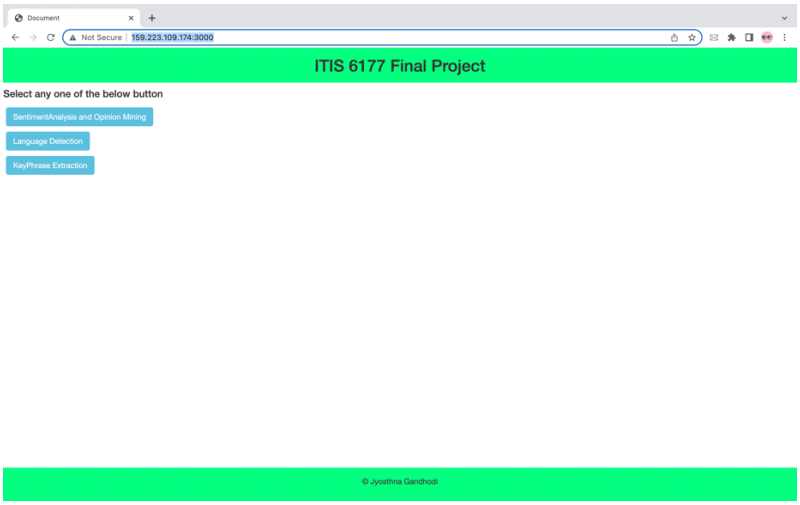
API Provided : https://azure.microsoft.com/en-us/services/cognitive-services/language-service/

Using this API I have created endpoints to perform Sentiment Analysis, Language Detection and Key Phrase extraction.

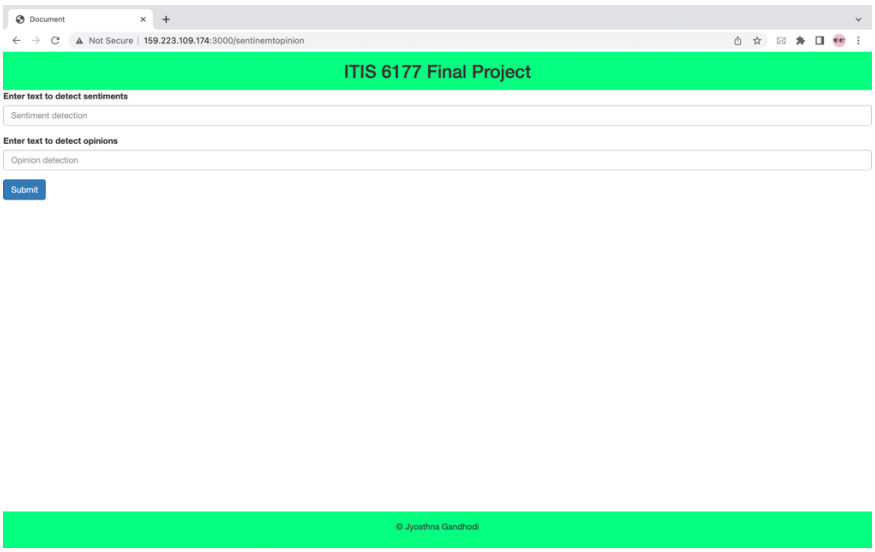
1.Sentiment Analysis : Sentiment analysis, often known as opinion mining, is a type of natural language processing (NLP) technique for determining the emotional tone of a body of text.

Testing via UI :

Step 1 : On the browser go to the website http://159.223.109.174:3000/ which opens the home page.

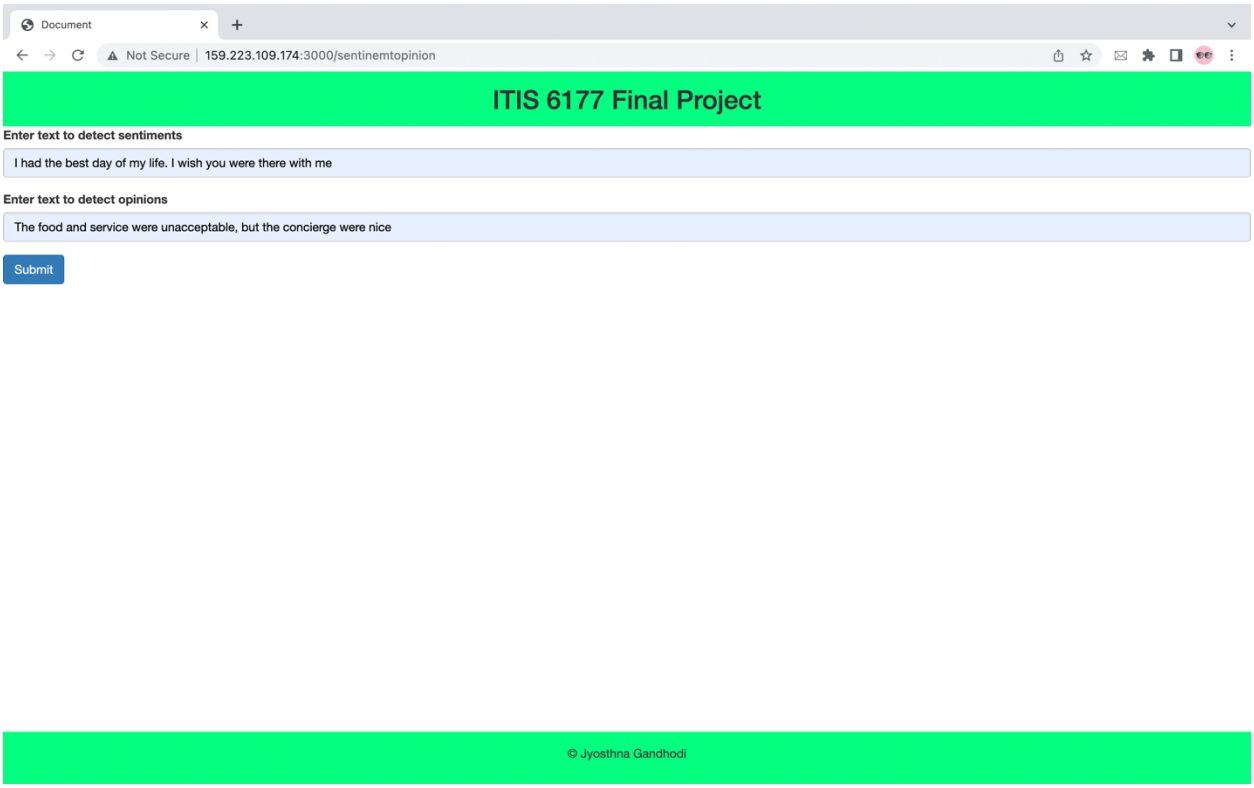


Step 2 : Select the button "**Sentiment Analysis and Opinion Mining**" which redirects to http://159.223.109.174:3000/sentinemtopinion

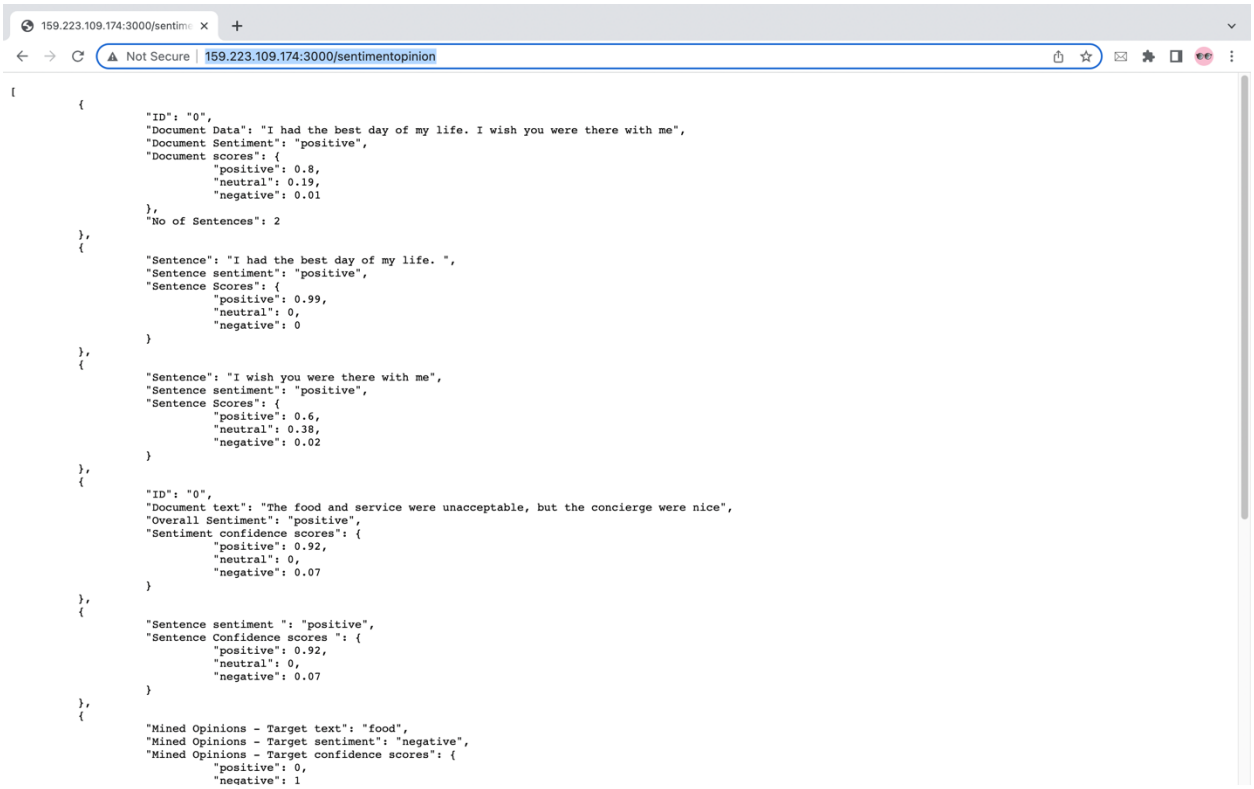


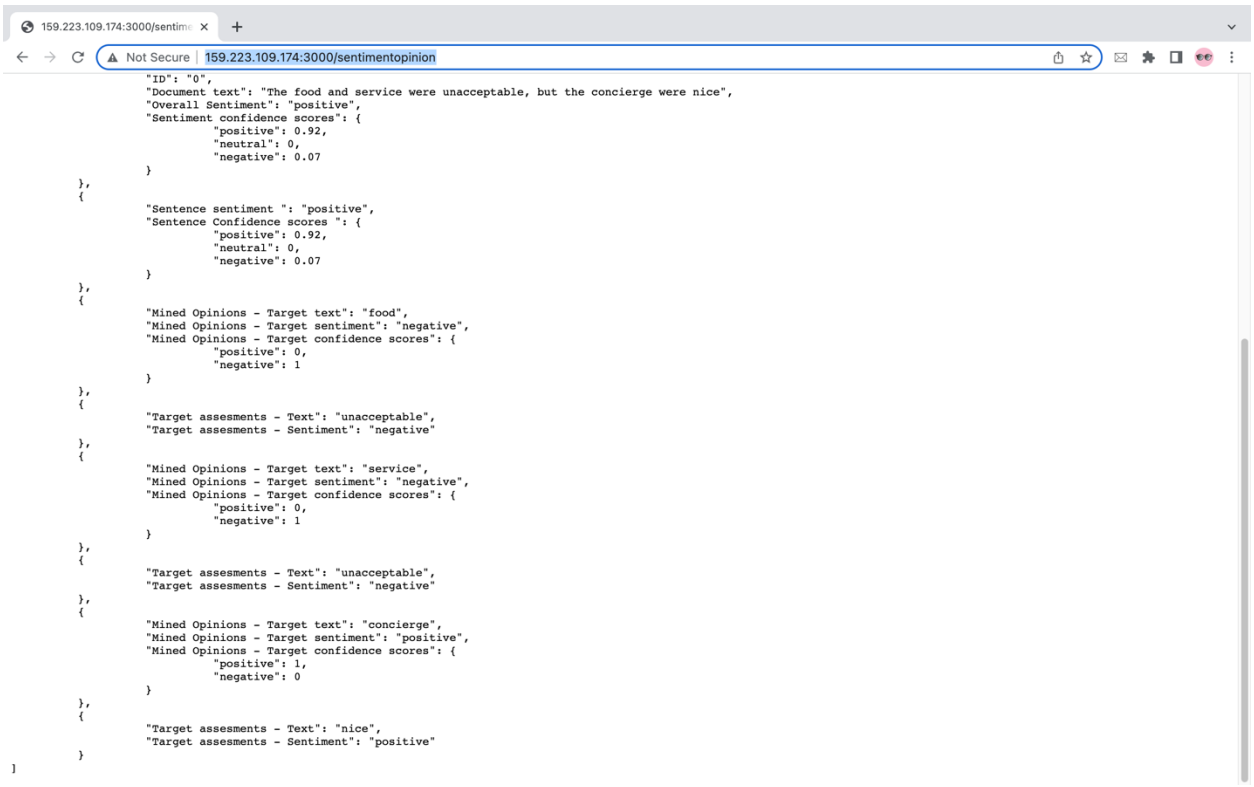
Step 3 : Under Enter text to detect sentiments and Enter text to detect opinions please give any text input.

Sample input :
Enter text to detect sentiments :
I had the best day of my life. I wish you were there with me
Enter text to detect opinions :
The food and service were unacceptable, but the concierge were nice.



Step 4: Press Submit which redirects to http://159.223.109.174:3000/sentimentopinion that contains JSON output of document Sentiment and its scores



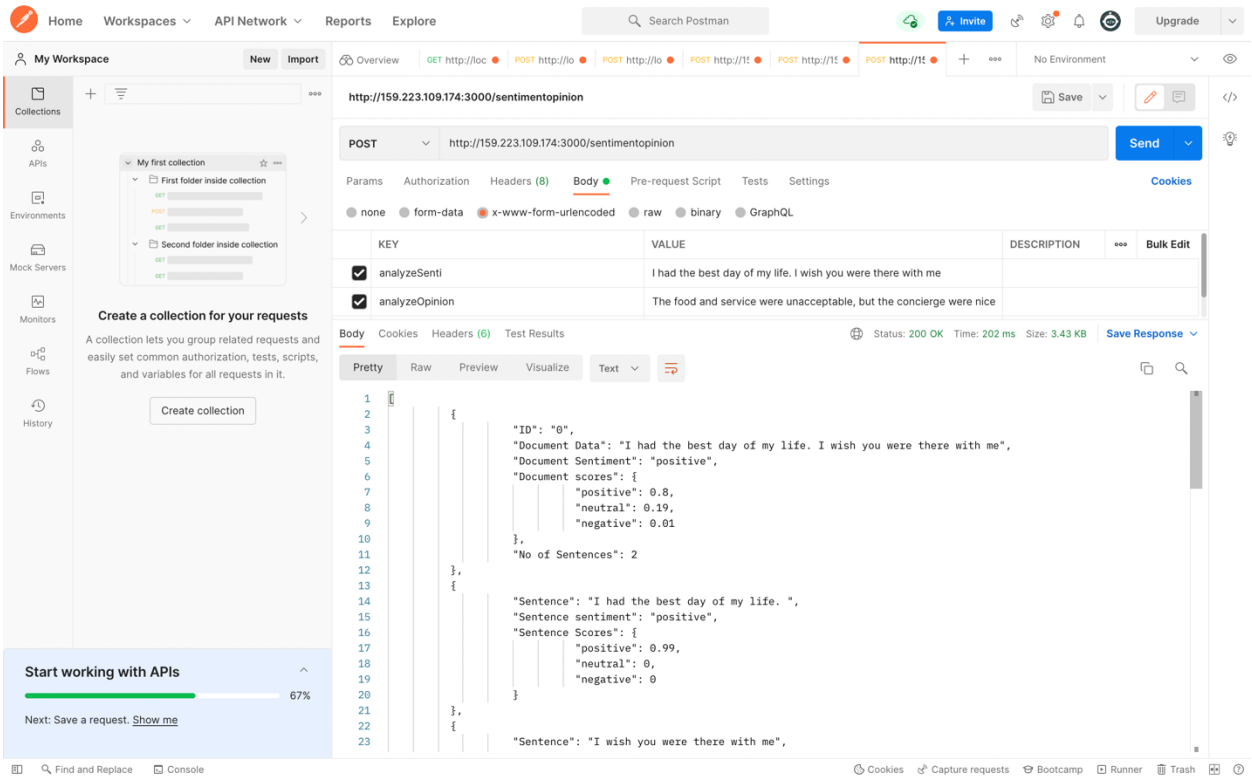


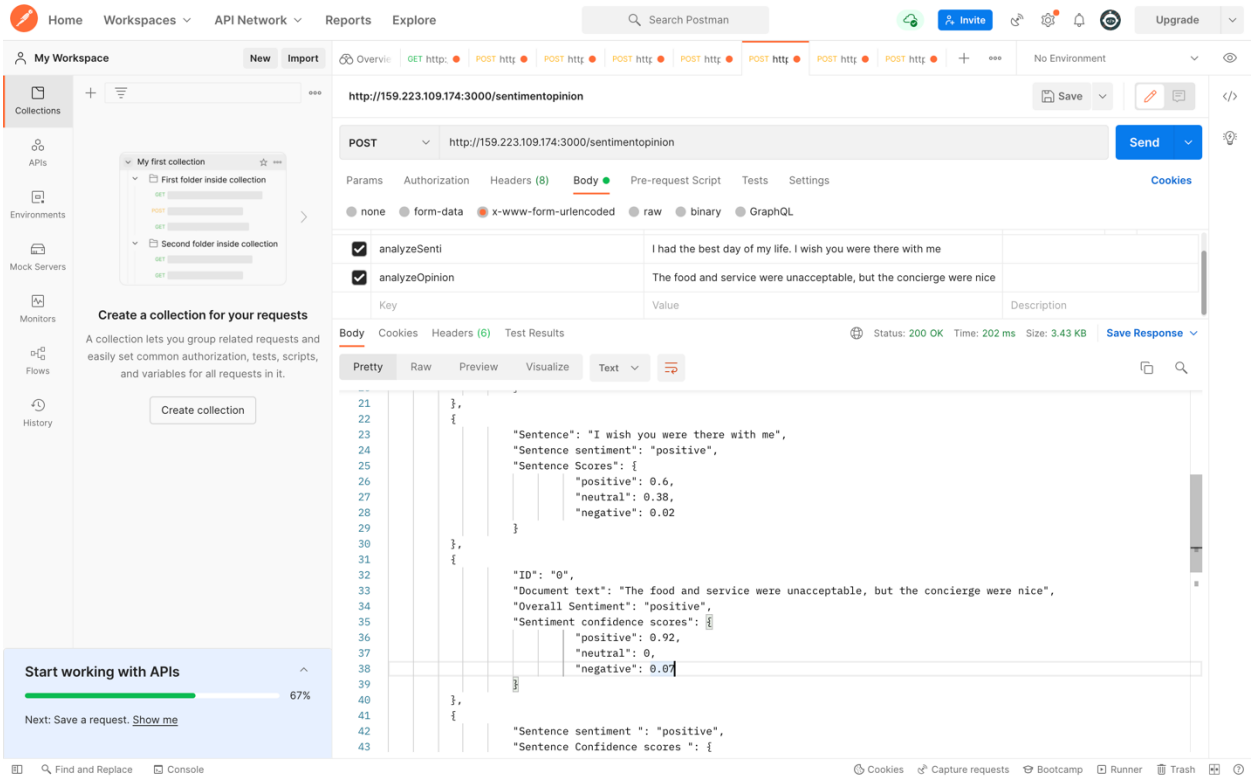
Testing via POSTMAN :

1. Give URL: http://159.223.109.174:3000/sentimentopinion ,
2. Select POST request and under body select **x-www-form-urlencoded** and give

KEY as "**analyzeSenti**" and VALUE as "**I had the best day of my life. I wish you were there with me** "

3. Click send and the response redirected will be JSON output that contains document Sentiment and its scores and the mined opinions focused on targeted words.


Home
Workspaces
API Network
Reports
Explore
Search Postman
Invite
Upgrade
My Workspace
New
Import
Collections
APIs
Environments
Mock Servers
Monitors
Flows
History
Create a collection for your requests
A collection lets you group related requests and easily set common authorization, tests, scripts, and variables for all requests in it.
Create collection
Start working with APIs
67%
Next: Save a request. Show me
No Environment
http://159.223.109.174:3000/sentimentopinion
Save
POST
http://159.223.109.174:3000/sentimentopinion
Send
Params
Authorization
Headers (8)
Body
Pre-request Script
Tests
Settings
Cookies
none
form-data
x-www-form-urlencoded
raw
binary
GraphQL
KEY
VALUE
DESCRIPTION
Bulk Edit
analyzeSenti
I had the best day of my life. I wish you were there with me
analyzeOpinion
The food and service were unacceptable, but the concierge were nice
Body
Cookies
Headers (6)
Test Results
Status: 200 OK
Time: 202 ms
Size: 3.43 KB
Save Response
Pretty
Raw
Preview
Visualize
Text
[
{
"ID": "0",
"Document Data": "I had the best day of my life. I wish you were there with me",
"Document Sentiment": "positive",
"Document scores": {
"positive": 0.8,
"neutral": 0.19,
"negative": 0.01
},
"No of Sentences": 2
},
{
"Sentence": "I had the best day of my life. ",
"Sentence sentiment": "positive",
"Sentence Scores": {
"positive": 0.99,
"neutral": 0,
"negative": 0
}
},
{
"Sentence": "I wish you were there with me",
Find and Replace
Console
Cookies
Capture requests
Bootcamp
Runner
Trash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Start working with APIs
67%
Next: Save a request. Show me
No Environment
http://159.223.109.174:3000/sentimentopinion
Save
POST
http://159.223.109.174:3000/sentimentopinion
Send
Params
Authorization
Headers (8)
Body
Pre-request Script
Tests
Settings
Cookies
none
form-data
x-www-form-urlencoded
raw
binary
GraphQL
analyzeSenti
I had the best day of my life. I wish you were there with me
analyzeOpinion
The food and service were unacceptable, but the concierge were nice
Key
Value
Description
Body
Cookies
Headers (6)
Test Results
Status: 200 OK
Time: 202 ms
Size: 3.43 KB
Save Response
Pretty
Raw
Preview
Visualize
Text
},
{
"Sentence": "I wish you were there with me",
"Sentence sentiment": "positive",
"Sentence Scores": {
"positive": 0.6,
"neutral": 0.38,
"negative": 0.02
}
},
{
"ID": "0",
"Document text": "The food and service were unacceptable, but the concierge were nice",
"Overall Sentiment": "positive",
"Sentiment confidence scores": {
"positive": 0.92,
"neutral": 0,
"negative": 0.07
}
},
{
"Sentence sentiment ": "positive",
"Sentence Confidence scores ": {
Find and Replace
Console
Cookies
Capture requests
Bootcamp
Runner
Trash

Output Explanation :

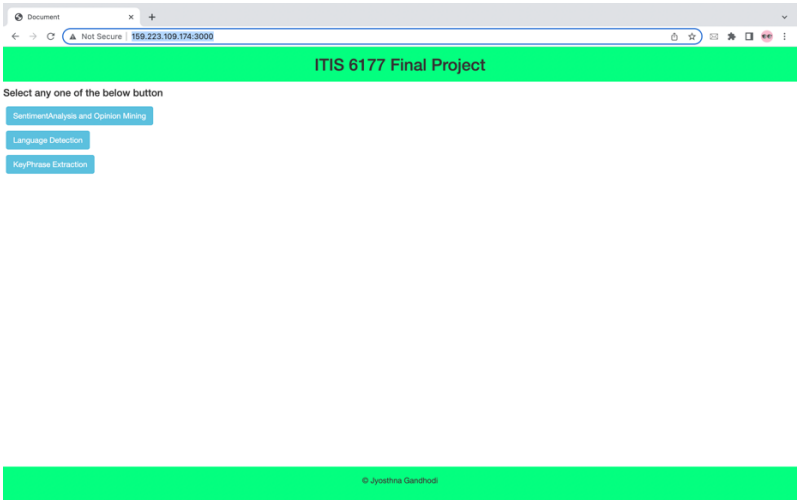
The response output displays the emotional tone of the text provided.

For instance for the text input "**I had the best day of my life. I wish you were there with me**" it displays the document Sentiment and its scores and for the text input "**The food and service were unacceptable, but the concierge were nice**" the output displays Sentiment and its scores and also the mined opinions focused on targeted words as shown in the above output images.

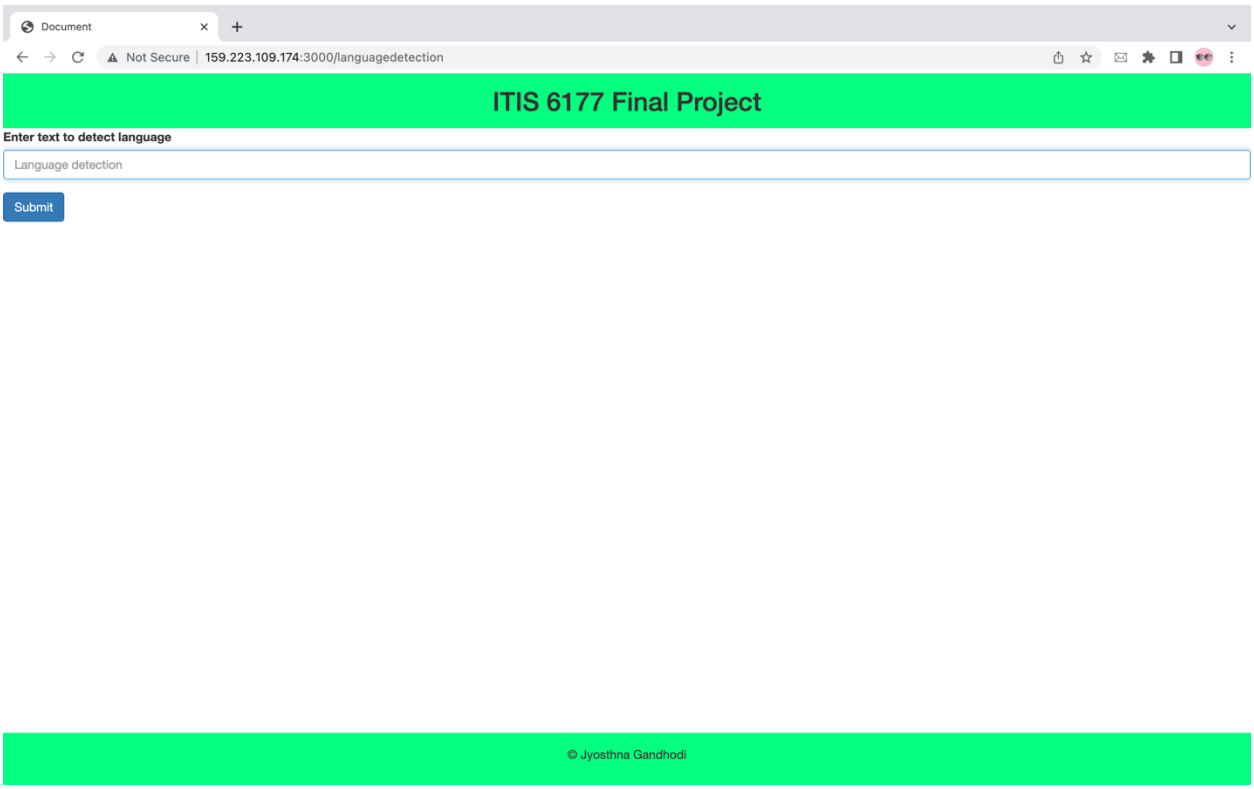
2. **Language Detection**: The language detection function detects which natural language the text is written in.

Testing via UI :

Step 1: On the browser go to the website http://159.223.109.174:3000/ which opens the home page.



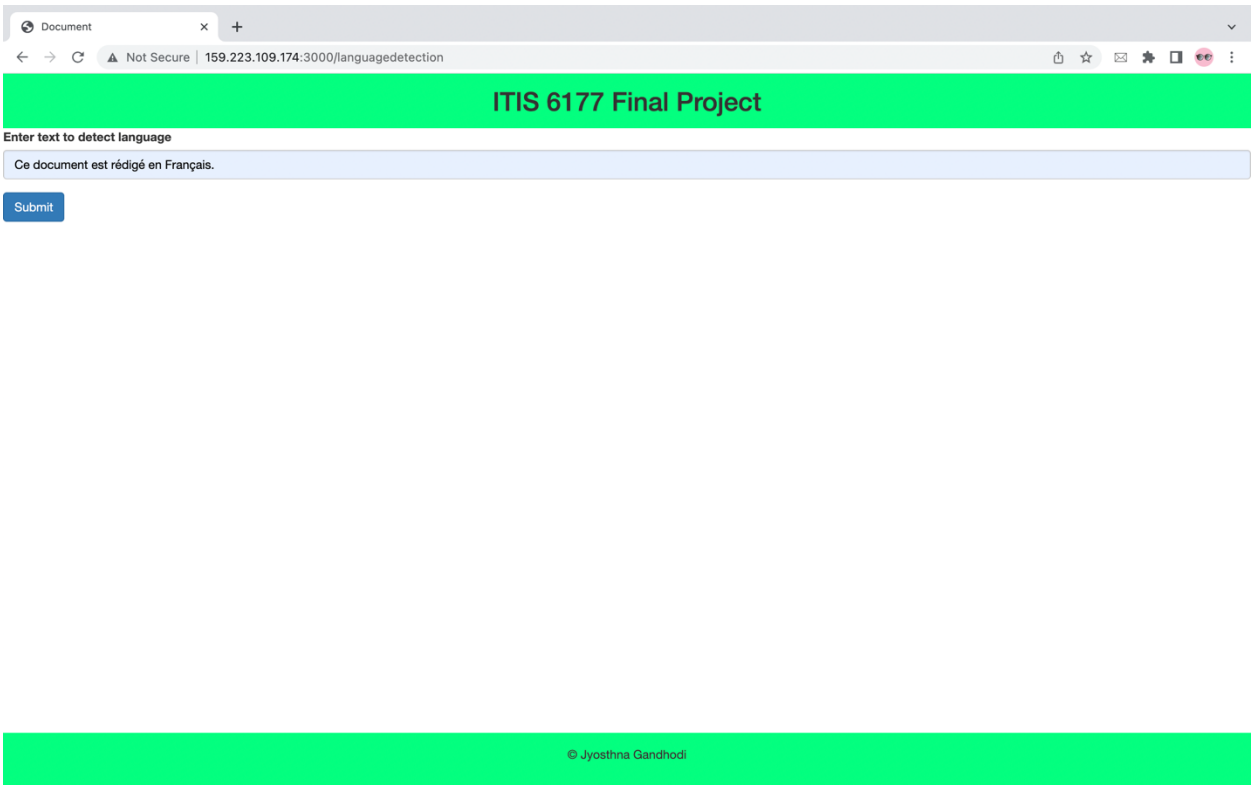
Step 2 : Select the button "**Language detection**" which redirects to http://159.223.109.174:3000/languagedetection



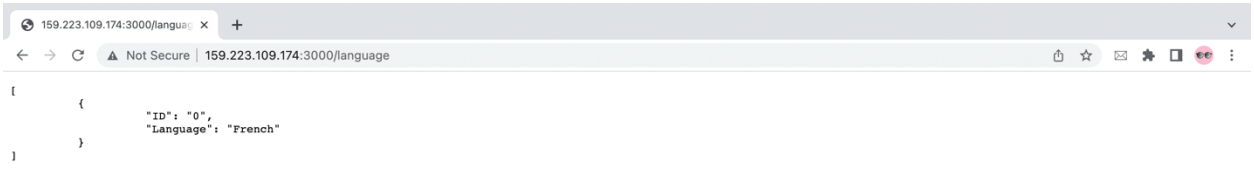
Step 3 : Under Enter text to detect language, enter any sample language input

Sample input :

Enter text to detect language
Ce document est rédigé en Français.

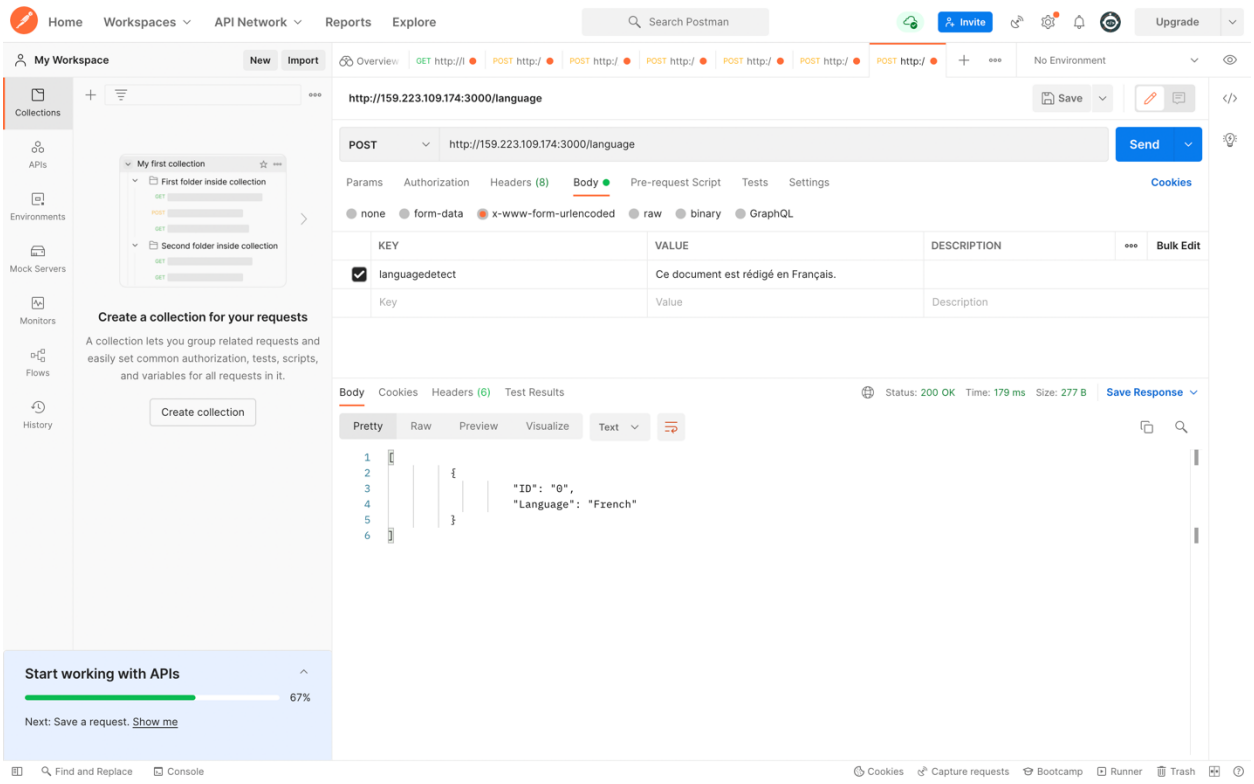


Step 4 : Press submit which redirects to http://159.223.109.174:3000/language



Testing via POSTMAN :

1. Give URL : http://159.223.109.174:3000/language
2. Select POST request and under body select **x-www-form-urlencoded** and give KEY as "**languagedetect**" and VALUE as "**Ce document est rédigé en Français**".
3. Click send and the response redirected will be JSON output that contains output of the language for the input given.



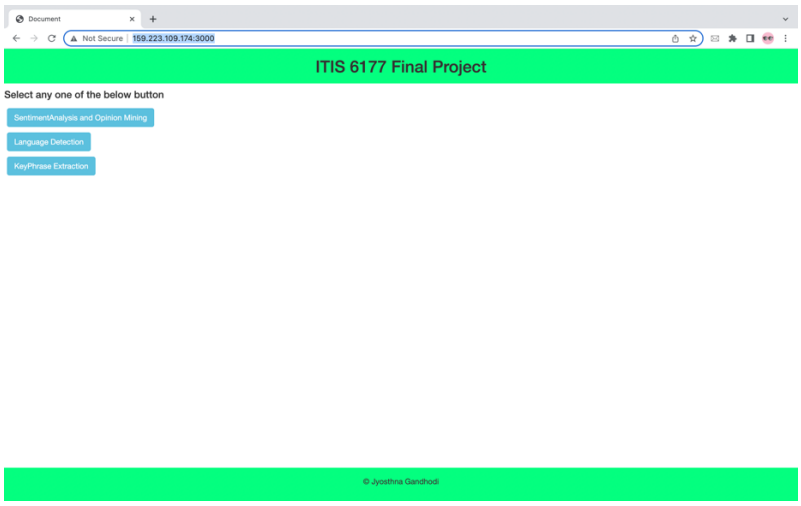
Output Explanation : For the input "**Ce document est rédigé en Français**.", the response of the output is the language of the input given .

3.**Keyphrase Extraction :**

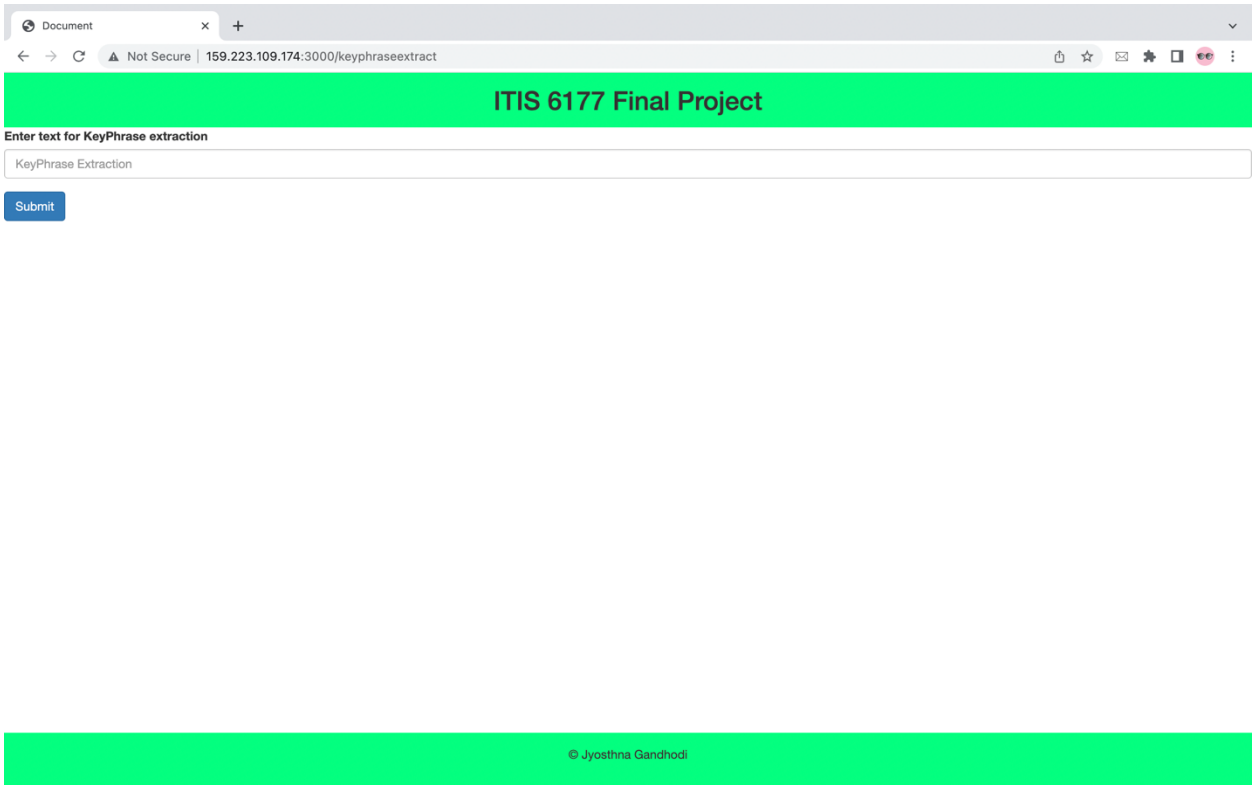
Keyphrase extraction is to automatically identify phrases that best describe the content of a text.

Testing via UI :

Step 1 : On the browser go to the website http://159.223.109.174:3000/ which opens the home page.

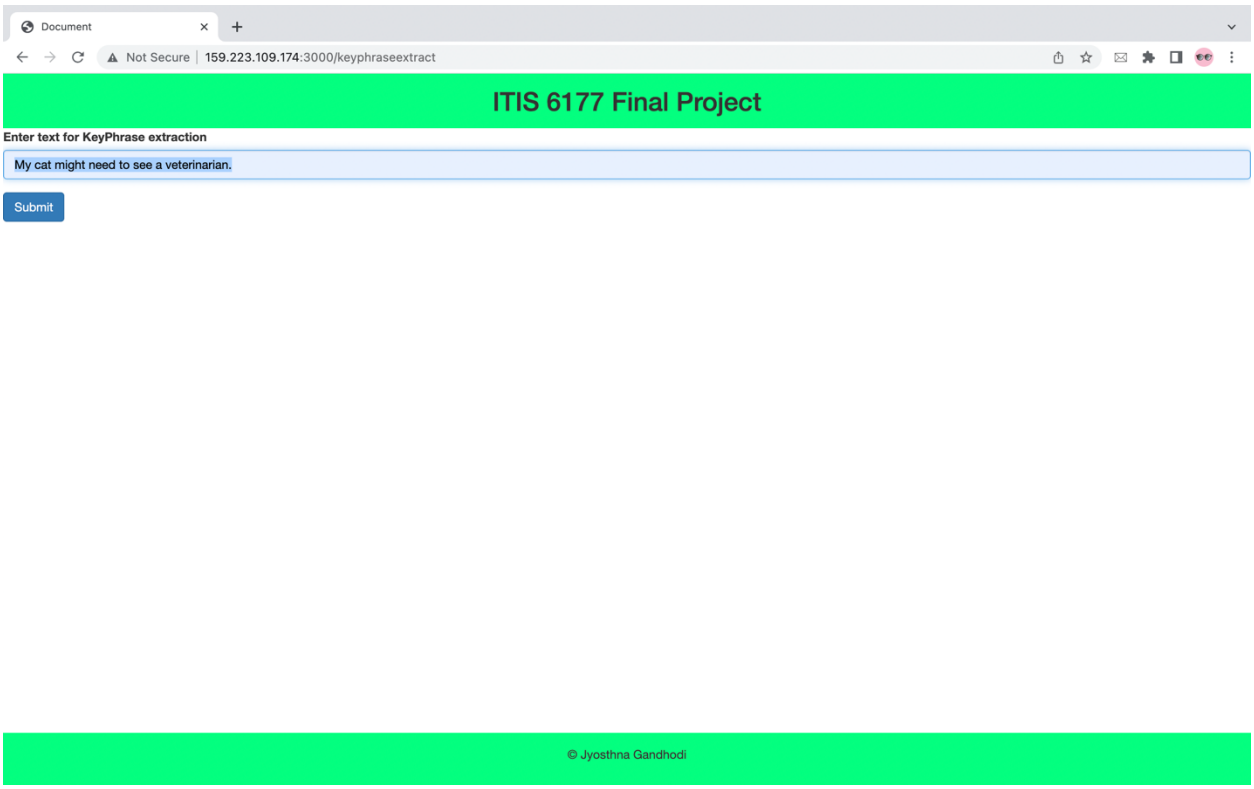


Step 2 : Select the button "**KeyPhrase Extraction**" which displays a form to enter the KeyPhrase

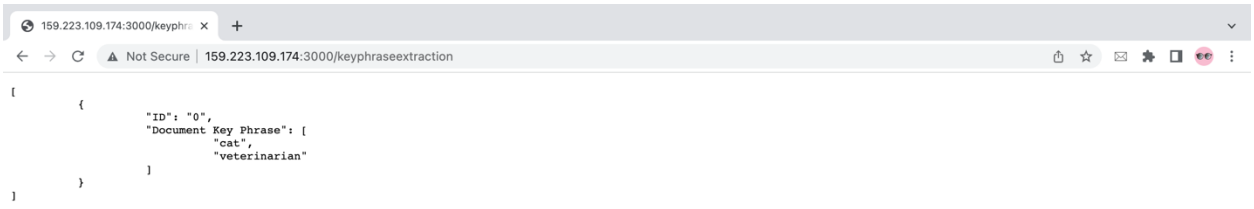


Step 3 : Under "**Enter text for KeyPhrase extraction**", enter any text input

Sample input for Enter text for KeyPhrase extraction :
"My cat might need to see a veterinarian."

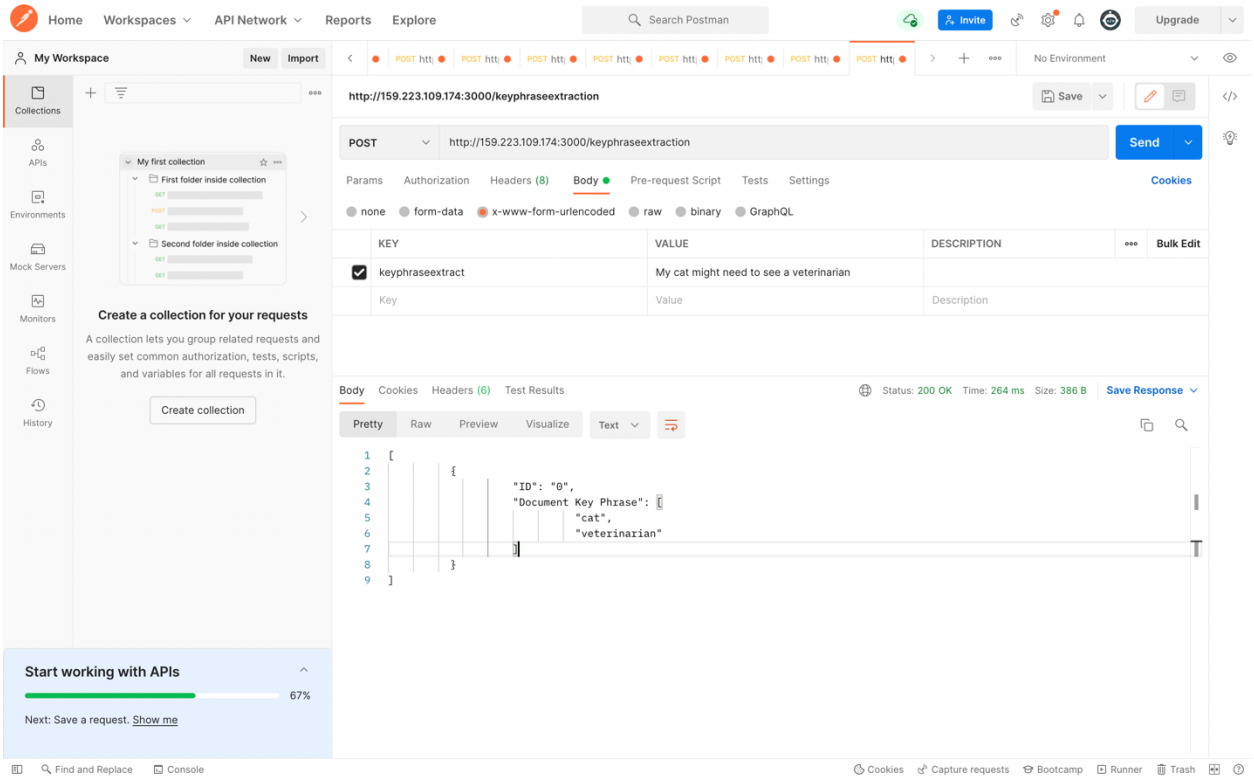


Step 4 : Press submit which redirects to http://159.223.109.174:3000/keyphraseextraction



Testing via POSTMAN :

1 . Give URL as http://159.223.109.174:3000/keyphraseextraction
2. Select POST request and under body select **x-www-form-urlencoded** and give KEY as "**keyphraseextract**" and value as "**My cat might need to see a veterinarian**"
3. Click send and the response redirected will be JSON output that contains key phrases for the input text given.



Output Explanation: For the text input given "My cat might need to see a veterinarian" the response of the output displays the keyphrases of the text "cat, veterinarian".

Tools, Languages and Frameworks Used

node.js - For implementing API
npm - Package manager for Javascript Programming language.
express - For building web applications and API.
azure/ai-text-analytics - Microsoft Azure API used.
body-parser - Used for processing data sent through an HTTP request.
cors - allows you to make requests from one website to another website in the browser.
dotenv - automatically loads environment variables.
ejs - Used for Generating web pages.
digital Ocean - For deploying the project.

References : https://azure.microsoft.com/en-us/services/cognitive-services/language-service/