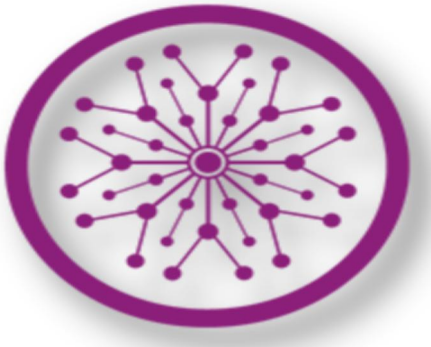

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NASA InSight Mars Weather Flask App - Backend Explanation

Introduction

This Flask app fetches and displays the latest Mars weather data using NASA's **InSight Weather API**. The backend is responsible for making API requests and passing the data to the frontend.

Flask Backend (app.py)

1. Importing Required Libraries

```
from flask import Flask, render_template
import requests
```

- Flask: Handles web routing and rendering templates.
- requests: Fetches data from NASA's API.

2. API Key and URL

```
NASA_API = "PQJ1o3eHjBHbKQhYZOXMkFDubNXCkbFdqhDHMLOv"
MARS_WEATHER_URL = "https://api.nasa.gov/insight_weather/"
```

- NASA_API: This is used to authenticate requests to NASA's API.
- MARS_WEATHER_URL: The endpoint to get weather data from Mars.

3. Fetching Data from NASA API

```
@app.route("/", methods=["GET"])
def index():
    params = {"api_key": NASA_API, "feedtype": "json", "ver": "1.0"}
    response = requests.get(MARS_WEATHER_URL, params=params)
    mars_weather = response.json()
    return render_template("index.html", weather=mars_weather)
```

- The index() function:
    - Sends a **GET request** to NASA's API.
    - Converts the response to **JSON format**.
    - Passes the data to the index.html file.

4. Running the Flask App

```
if __name__ == "__main__":
    app.run(debug=True)
```

- This starts the Flask web server.
- debug=True allows automatic reloading during development.

How It Works

1. The user visits the **home page (/)**.
2. Flask **requests** the latest **Mars weather data** from NASA.
3. The API response is **converted into JSON**.
4. Flask **sends the data** to index.html for display.

This backend ensures **real-time weather updates** from Mars in a simple and efficient way!