# Introduction

Choosing what to wear can be confusing, especially with unpredictable weather. This project aims to solve that problem by automatically suggesting outfits based on current weather conditions fetched from a live weather API. It uses a curated database of clothes and matches them with the weather to recommend what's best to wear.

# Objective

To build a desktop application that:

* + Accepts city and gender input from the user.
  + Fetches real-time weather data using the OpenWeather API.
  + Recommends suitable clothes based on temperature, rainfall, and gender.
  + Displays suggestions using a user-friendly GUI.
  + Logs weather data for later reference.

# Technology Stack

Component Technology Used Programming Language Python 3.10+ GUI Framework Tkinter

API Used OpenWeatherMap API Data Format CSV (for clothes and logs)

Libraries requests, tkinter, csv, random, datetime

# Working Mechanism

Step-by-step Flow:

1. User Input: City and Gender are entered via GUI.
2. Geocoding: The app fetches latitude and longitude for the city.
3. Weather API: Uses OpenWeather API to get real-time temperature and weather conditions.
4. Clothing Logic: Matches weather data with appropriate clothes using a custom CSV.
5. Suggestion Displayed: Final outfit is shown to the user via the GUI.
6. Data Logging: Weather data is saved into a CSV file.

# Modules & Code Structure

Function Description

get\_lat\_lon\_from\_city() Fetches coordinates from city name. get\_weather\_data() Retrieves live weather data using coordinates. save\_weather\_data() Saves weather logs into weather\_data.csv. load\_clothes\_data() Loads clothing data from CSV.

suggest\_clothes\_for\_weather() Matches weather to clothes based on temperature & rain. generate\_outfit() Main GUI logic that calls all the other functions.

# Sample Clothing CSV Format (clothes\_outerwear.csv)

Item,Category,Type,Gender T-Shirt,hot,top,Unisex Jeans,warm,bottom,Unisex

Hoodie,cool,outerwear,Unisex Raincoat,rain,outerwear,Unisex Gloves,very\_cold,accessory,Unisex Scarf,cold,accessory,Female

# Sample Output (GUI Result)

Weather Summary:

City: Mumbai

Temp: 32°C | Feels like: 35°C Condition: Rain

Suggested Outfit: Top: T-Shirt Bottom: Jeans

Outerwear: Raincoat Accessory: Scarf

# Screenshots

(Insert screenshots of your application here)

* + GUI with input fields
  + Output screen showing recommended outfit
  + Console output (optional)
  + CSV files in folder

# Conclusion

This project successfully demonstrates how real-world data (like weather) can be integrated into user-facing applications to solve daily-life problems. It uses simple yet effective logic to suggest personalized outfit recommendations in real-time.

# Future Improvements

* + Add support for weather forecasts (next 5 days).
  + Include clothing images for better visual output.
  + Enable dark/light mode themes for GUI.
  + Deploy as a mobile/web app in the future.
  + Add voice input for hands-free usage.





