# AI BASED OUTFIT RECOMMENDATION SYSTEM


## Abstract:

Fashion is one of the most important social practices that help human beings to express themselves. However, choosing the right outfit can be time-consuming and rather complicated. Thanks to the development, it is entirely possible to create a smart and efficient outfit recommendation system based on artificial intelligence. For instance, while a user gets ready for a formal business meeting on a rainy day, an AI-based system can suggest a blazer, waterproof shoes and an umbrella, both stylish and practical. In the same way, someone who is planning on going out for a casual summer outing could be given suggestions of a lightweight cotton shirt, shorts and sneakers for the perfect comfort. The goal of this project is to make the process of outfit planning easier by suggesting what to wear based on the user's preferences, weather conditions and the event that is to happen. The system enables users to upload images of their wardrobe, pick an event and get outfit suggestions from AI that are relevant to their needs. Developed on the backend using Flask, the platform uses the Gemini API to understand fashion trends and suggest useful options. This system is different from other fashion recommendation websites because it is created to be a one time use tool that does not require the user to create an account or log in. From this project, users will be able to make their fashion choices with confidence, without having to spend a lot of time on it and even improve their style.


## Technologies Used:

### 1. Backend Technologies (Server-Side Processing)

Flask (Python) – Lightweight web framework for handling API requests, processing user inputs, and managing AI interactions.
Python – Core programming language for backend logic, API calls, and data processing.
Flask-RESTful – Used for creating REST APIs for communication between the frontend and backend.
Gemini AI API – Processes wardrobe images and generates AI-powered outfit recommendations based on weather and occasion.

### 2. Frontend Technologies (User Interface & Interaction)

HTML5 – Defines the structure of the web application.
CSS3 – Provides styling for a clean, responsive, and visually appealing user interface.
JavaScript – Handles dynamic interactions and communicates with the backend API for smooth user experience.


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