

AI-Based Fashion Recommendation Engine

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Abstract: *Fashion decision-making involves multiple personal and contextual factors including body type, occasion, weather conditions, and emotional state. Traditional styling advice and most existing recommendation platforms provide generalized suggestions that fail to adapt to individual user contexts. This paper presents an AI-Based Fashion Recommendation Engine that integrates body type classification, hybrid recommendation algorithms, contextual analysis, secure user authentication, and a dynamic rating feedback mechanism. The system analyzes structured user inputs such as body shape, occasion type, weather data, mood, and style preferences to generate personalized outfit recommendations. Real-time API integration enables seamless product discovery, while a feedback-driven rating system enhances continuous learning and personalization. The architecture follows a modular three-tier design ensuring scalability, responsiveness, and secure data handling. Experimental evaluation demonstrates improved recommendation relevance, high user satisfaction scores, and effective personalization through accumulated feedback.*

Keywords: Fashion Recommendation System, Hybrid Recommender, Context-Aware AI, Body Type Classification, Collaborative Filtering, User Authentication, Rating System

