

## style match Ai

topic name :-Style Match AI: Revolutionizing Personalized Fashion Recommendations

Synopsis:- By analyzing user inputs, Style Match AI provides curated recommendations that align with their style preferences, making shopping experiences faster, more accurate, and tailored. The project integrates cutting-edge technologies such as natural language processing for seamless search queries, web scraping for real-time product data, and a responsive interface for enhanced user engagement. This AI-powered solution not only simplifies the shopping journey but also serves as a valuable tool for retailers aiming to understand customer demands better.

1. Introduction:-Problem: Fashion choices are often generic and lack personalization.

Solution: Style Match AI offers AI-powered, tailored fashion advice based on skin tone and user preferences.

2. Key Features :-

1. Image upload and analysis
2. Personalized color and style recommendations
3. Trend-aware clothing combination suggestions

3. How It Works:- Users upload images via Next.js frontend. FastAPI processes images, and Google Generative AI performs color and trend analysis. Results displayed in an intuitive, user-friendly interface.

#### 4. Technology Stack

1. Backend: FastAPI for efficient API management
2. AI: Google Generative AI for color analysis and style recommendations
3. Frontend: Next.js for responsive UI
4. Image Processing: PIL for image analysis

#### 5. Market Opportunity

1. Growing Market: Expanding fashion tech sector
2. Target Users: Individuals seeking personalized fashion advice and e-commerce platforms
3. Competitive Advantage: Hyper-personalized recommendations compared to generic solutions

#### ### \*Frontend Technologies (Summary)\*

1. \*Frameworks & Libraries\*:
  - \*Next.js\*: Enhances SEO and builds efficient React UIs with server-side rendering.
2. \*Styling\*:
  - \*Tailwind CSS\*: Simplifies creating custom, responsive designs.
3. \*HTTP Requests\*:
  - \*Axios\*: Handles API integrations and HTTP requests efficiently.
4. \*Image Optimization\*:
  - \*Next.js Image Optimization\*: Ensures fast-loading images and better performance.

#### ### \*Backend Technologies (Summary)\*

1. \*Programming Language\*:
  - \*Python\*: Core language for AI/ML models and backend logic.
2. \*Web Frameworks\*:
  - \*FastAPI\*: High-performance framework for building REST APIs.
3. \*AI/ML Integration\*:
  - \*Gemini API\*: Powers AI/ML functionality and skill tone analysis.
4. \*Cloud Hosting\*:
  - \*Koyeb\*: Hosts FastAPI backend services.
  - \*Vercel\*: Hosts the Next.js frontend application.
5. \*CI/CD Tools\*:
  - \*GitHub Actions\*: Automates testing, building, and deployment workflows.