# Challenge Title

**The AI Fashion & Style Companion**

# Background

Fashion is a constantly evolving cultural expression, deeply influenced by historical context and contemporary trends. Many individuals struggle to understand their personal style, visualize new looks, and stay current with trends while drawing inspiration from the past. Traditional fashion tools often lack the intelligence to connect personal wardrobe items to broader historical and stylistic narratives. With the rise of Generative AI, we now have an opportunity to revolutionize personal styling through smart, context-aware fashion analysis and recommendations.

# Challenge

Build an AI-powered fashion and style consultant that can analyze uploaded clothing images, contextualize them historically and stylistically, provide virtual try-ons, and generate personalized recommendations — all enhanced by real-time trend analysis via web search.

# Objectives

The ideal solution could have the following features:

- Perform image analysis to detect clothing types, styles, patterns, and infer historical/cultural context.
- Leverage generative AI and real-time web search to provide trend comparisons and historical insights.
- Enable users to visualize garments through AI-generated virtual try-ons or style morphing (e.g., adapting a 1920s look to modern times).
- Recommend modern equivalents or complementary pieces based on the analyzed item's aesthetic and context.
- Deliver a comprehensive, intelligent styling experience that adapts to both current trends and personal preferences.

# Expected Deliverables

- **Codebase**: Complete source code hosted on GitHub or submitted as a ZIP file.
- **Presentation/Report**: Summary of approach, challenges, and outcomes (PDF, Notion, or similar).
- **Prototype (optional)**: Web app or demo showcasing the app in action.

# Evaluation Criteria

**Idea Conception [40%]**

- **Problem understanding and depth [10%]**: How well does the solution address the real-world fashion challenges?
- **Innovation and originality [20%]**: Are novel AI capabilities and concepts applied creatively?
- **Impact and feasibility [10%]**: Can this solution realistically help users and scale?

**Technical Implementation [40%]**

- **Technical soundness [30%]**: Effective use of models, APIs, and data handling.
- **Prototype/demo UX [10%]**: Usability and coherence of any presented application.

**Communication [20%]**

- **Presentation quality**: Clear articulation of goals, methods, and value.
- **Time management and logical flow**: Structure and polish of the final output.

# (Optional) Bonus Points / Extra Mile Ideas

- Implement virtual style morphing: Show how a garment might look in another era or trend.
- Incorporate ethical fashion insights or sustainability recommendations.
- Enable user personalization features like mood-based outfit suggestions or occasion-specific styling.
- Ensure explainability of AI decisions (e.g., why a specific historical era was inferred).

# Realistic Scope for the Timeframe

This challenge is designed to be approachable within 40 hours. Teams may choose to:

- Build a lightweight demo with recommendations and basic image tagging (quick solution).
- Or pursue a robust system with generative visuals, live web integration, and personalized styling (complex solution).