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**E-PROVA**

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# **Abstract**

E-Prova is a smart and interactive e-commerce platform that allows users to try on clothes virtually before buying them online. The idea behind the project is to make online shopping more personal and realistic, especially for people who often find it hard to imagine how clothes will look on them just from pictures.

Through the platform, users can upload their own photo and see how different outfits would appear on them as if they were standing in front of a mirror. This feature helps users make better decisions and feel more confident about their purchases. The system depends on artificial intelligence to handle and adjust the clothes on the user’s image in a natural and smooth way.

In addition to the virtual try-on feature, E-Prova includes all the basic functions of an online store. Users can browse products, add items to their cart, place orders, leave reviews, and even benefit from special offers and discounts. Admins can also manage products, brands, and track orders through a dedicated panel.

E-Prova was built to improve the online shopping experience by making it more fun, easy, and suitable for different user needs. It aims to bring the future of fashion retail closer to reality.

# **Acknowledgement**

We would like to express our heartfelt thanks to our supervisor, [Dr. Ahmed Hesham], for his continuous guidance, support, and encouragement throughout the journey of developing the E-Prova platform. His advice and feedback helped us stay focused and motivated during every stage of the project.

We also want to thank each team member for their hard work, creativity, and teamwork. Every part of this project was built with shared effort and dedication.

Finally, we would like to thank everyone who believed in our idea and inspired us to think creatively. This project was not just about building a platform—it was about creating something meaningful and helpful, and we couldn’t have done it without the support of those around us.

Thank you all for being part of our journey.



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# **Chapter 1**

[Introduction]

presents a brief introduction to the E-Prova platform, a virtual try-on e-commerce system that helps users visualize how clothes would look on them before purchasing. By allowing users to try outfits on their own images, the platform reduces doubts and improves decision-making during online shopping.

The platform also includes essential e-commerce features such as product browsing, order placement, reviews, and promotional offers. It aims to solve the common issue of poor fit and unexpected product appearance, which often leads to returns.

The scope of the project focuses on making fashion shopping more interactive, reliable, and user-friendly—especially for customers who shop online and want a more realistic experience.



## **1.1 Overview**

E-Prova is an innovative e-commerce application that aims to improve the online fashion shopping experience by allowing users to virtually try on clothes before making a purchase. The platform is designed to help users make smarter and more confident buying decisions by showing how each clothing item would look on their body in a realistic and personalized way.

The virtual try-on feature uses advanced technology to process the user’s image and adapt the selected garment to match their body shape and posture. This allows shoppers to get a better sense of the size, fit, and appearance of clothes without physically wearing them. This feature is especially helpful in reducing the number of incorrect purchases and returns that often happen with online shopping.

Alongside this, E-Prova offers a full shopping system, including browsing and filtering products, managing brands and categories, placing orders, applying promotional offers and discounts, and submitting product reviews. Users can also create their own accounts to track orders and save favorite items.

Many online shoppers struggle with the inability to try on clothes before buying, which leads to hesitation, disappointment, and wasted time or money. E-Prova addresses this problem by creating a more interactive, visual, and user-friendly shopping experience from home.

Overall, E-Prova provides a smart and accessible solution that helps users enjoy online fashion shopping with more confidence, accuracy, and satisfaction.

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## **1.2 Problem Statement**

Online shopping for clothes has grown rapidly in recent years, offering convenience and variety for users. However, a major drawback still remains—customers cannot try on clothes before purchasing. This leads to uncertainty about how the clothes will look and fit on their own body, often resulting in dissatisfaction, returns, and wasted time and money.

According to industry reports, one of the most common reasons for product returns in online fashion retail is poor fit or the item looking different from expectations. Many customers hesitate to complete purchases due to doubts about size, appearance, or compatibility with their personal style. This affects customer satisfaction and increases operational costs for e-commerce platforms.

Additionally, most online clothing stores lack interactive tools to personalize the shopping experience or allow users to visualize products on themselves. Customers have to rely on static images, size charts, or model photos that may not reflect their own body shape or style preferences.

This experience is particularly challenging for users with limited fashion knowledge or those shopping online for the first time. It can also be frustrating for people who live in areas with limited access to physical stores and rely heavily on e-commerce.

**E-Prova** aims to solve these problems by introducing a smart virtual try-on feature that allows users to see how clothes would look on their own photos in a realistic and interactive way. The system also provides all core e-commerce functionalities and aims to make online fashion shopping more personalized, confident, and satisfying for every user.   
   


## **1.3** **Scope and Objectives**

The E-Prova system aims to transform the online fashion shopping experience by introducing a virtual try-on feature that allows users to visualize clothing on their own images before making a purchase. This feature provides a more interactive, realistic, and personalized shopping journey, helping users make confident buying decisions and minimizing returns caused by poor fit or misleading appearances.

By leveraging artificial intelligence, E-Prova accurately adjusts clothing items to match the user’s body shape and posture, delivering a natural and convincing representation of how the clothes would look in real life.

Beyond the try-on experience, E-Prova serves as a comprehensive fashion platform. It allows users to explore curated collections, make purchases, track orders, and engage with product reviews and offers in a seamless and intuitive environment. The platform also includes an admin interface designed to streamline backend operations such as managing inventory, monitoring orders, and handling product listings—ensuring efficiency and scalability.

**Objectives of E-Prova:**

1. To reduce the number of product returns and enhance customer confidence by offering a more accurate and realistic preview of clothing items.
2. To reduce the number of product returns and enhance customer confidence by offering a more accurate and realistic preview of clothing items.
3. To deliver a user-friendly and feature-rich shopping environment, with functionalities like product filtering, reviewing, and wish-listing.
4. To enable efficient management of the store through an admin dashboard that supports real-time updates for products, brands, and order status.
5. To make fashion e-commerce more inclusive, enjoyable, and tailored to individual preferences and body types.



Overall, E-Prova envisions a future where digital fashion shopping is as personal and reliable as visiting a physical store—bridging the gap between imagination and reality through smart, interactive technology.

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# **Chapter 2**

[Literature Review]

This chapter presents a comprehensive analysis of fashion retailers utilizing artificial intelligence features in their e-commerce platforms. We examine how current industry leaders implement AI technologies to enhance the online shopping experience, from personalized recommendations to virtual fitting solutions.

Through detailed evaluation of each platform's advantages and limitations, we identify critical gaps in the current market landscape. The chapter further explores the technological foundations underlying these systems, including computer vision techniques, machine learning algorithms, and secure payment integration methods.

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## **2.1** **Similar Applications**

### **2.1.1 Stitch Fix - AI Styling Algorithm**



**Pros** :

* Hybrid AI-human approach combining algorithms with personal stylists
* Deep learning models analyze style preferences from detailed questionnaires

**Cons** :

* Subscription-based model with $20 styling fee
* No immediate virtual visualization of items

### **2.1.2 YouCam Online Editor - AI Clothes Changer**

**Pros** :

* Real-time AI clothing overlay on user photos
* Supports multiple clothing categories (tops, dresses, outerwear)

**Cons** :

* Requires high-quality full-body photo for best results
* Watermark on free version outputs

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### **2.1.3 AIEASE - AI Virtual Try-On**

  
 **Pros** :

* Supports both photo upload and live camera modes
* Preserves original photo quality and lighting

**Cons** :

* Processing time can be slow for high-resolution images
* Requires technical integration for e-commerce platforms

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