Fashion AI Bot

APPLICATION:

Fashion AI Bot is a solution for generating fashion photos using Generative AI.

FIELD:

Fashion

DESCRIPTION:

Fashion AI Bot is a Generative AI solution that creates realistic fashion images from product photos, enabling faster launches, lower costs, and consistent brand visuals.
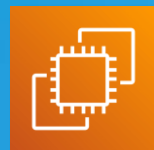
AWS SERVICES USED FOR IMPLEMENTATION:

AMAZON BEDROCK

AMAZON EC2

AMAZON S3

SOLUTIONS USED FOR THE IMPLEMENTATION:

AUTOMATION

GENAI

RAG

1 Introduction

Recognizing the potential of Generative AI and the needs of our fashion industry clients, **we created the Fashion AI Bot.** It's a tool that **generates realistic images of clothing presented on virtual models.**

Fashion AI Bot **automates the process of creating fashion photoshoots.** Simply upload a product photo – a blouse, dress, or coat – select a model, pose and background and the tool will generate fashion shoot images in the desired configuration.

2 Introduction

The solution is powered by trained LLM models that analyze the garment's structure, color scheme and cut, then realistically place it on the chosen figure in a specific setting.

The time required to produce **a photo is significantly reduced, lowering costs.** Additionally, our clients value the solution's ability to maintain quality control and consistent aesthetics in published online store images.

This makes introducing products to e-commerce faster, more cost-effective and far simpler.

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2 Challenges

We designed this solution specifically for **companies operating in an online-first model,** which face constant pressure to launch new products quickly and continuously update visual materials. Traditional photoshoots, while high-quality, are expensive, time-consuming and difficult to scale, requiring planning, logistics and the involvement of many teams and external contractors.

Furthermore, every change in the assortment - a new color, cut, or seasonal line - creates the need for another shoot. For many brands, this means a significant operational and financial burden. Limitations in model or location availability can affect presentation consistency and delay marketing and sales campaigns.
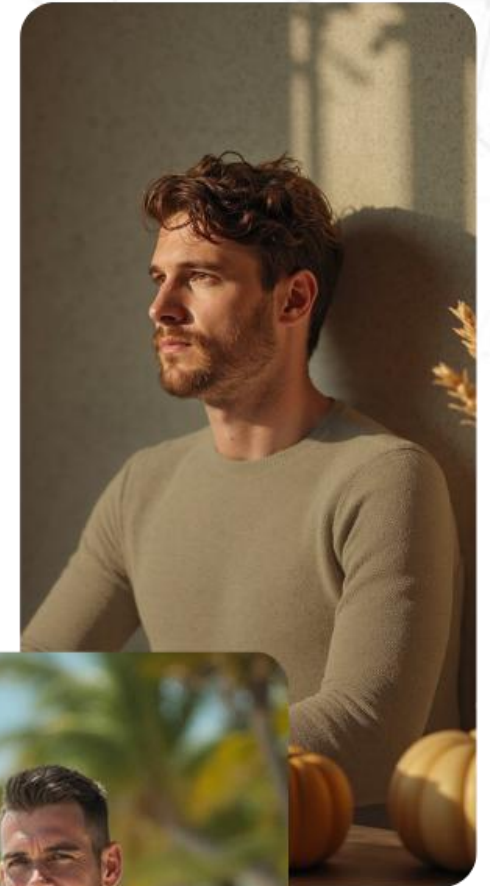
Considering all these challenges, we decided to **create a solution that would accelerate photoshoot production, reduce costs and align with each brand's aesthetics without sacrificing quality.** It was equally important to design a system capable of handling a high volume of requests, maintaining consistent figures across multiple images and being easy to use even for non-IT staff.

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3 Solution

Fashion AI Bot was designed using Generative AI technology. **The entire architecture operates in Amazon Web Services cloud** and was built with components such as **Amazon EC2, Amazon S3 and Amazon Bedrock.**

The operating environment is based on containers running within a **private Amazon VPC** network, allowing for client separation and data security. Each client receives their own dedicated bucket in Amazon S3 for storing uploaded images and ready visualizations.

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3 Solution

Image generation is supported by AI models deployed via Amazon Bedrock, as well as those installed on **Amazon EC2 instances**, appropriately converted into a **RAG-based solution.** The entire process of managing user requests is handled by **Application Load Balancer and Amazon API Gateway.**
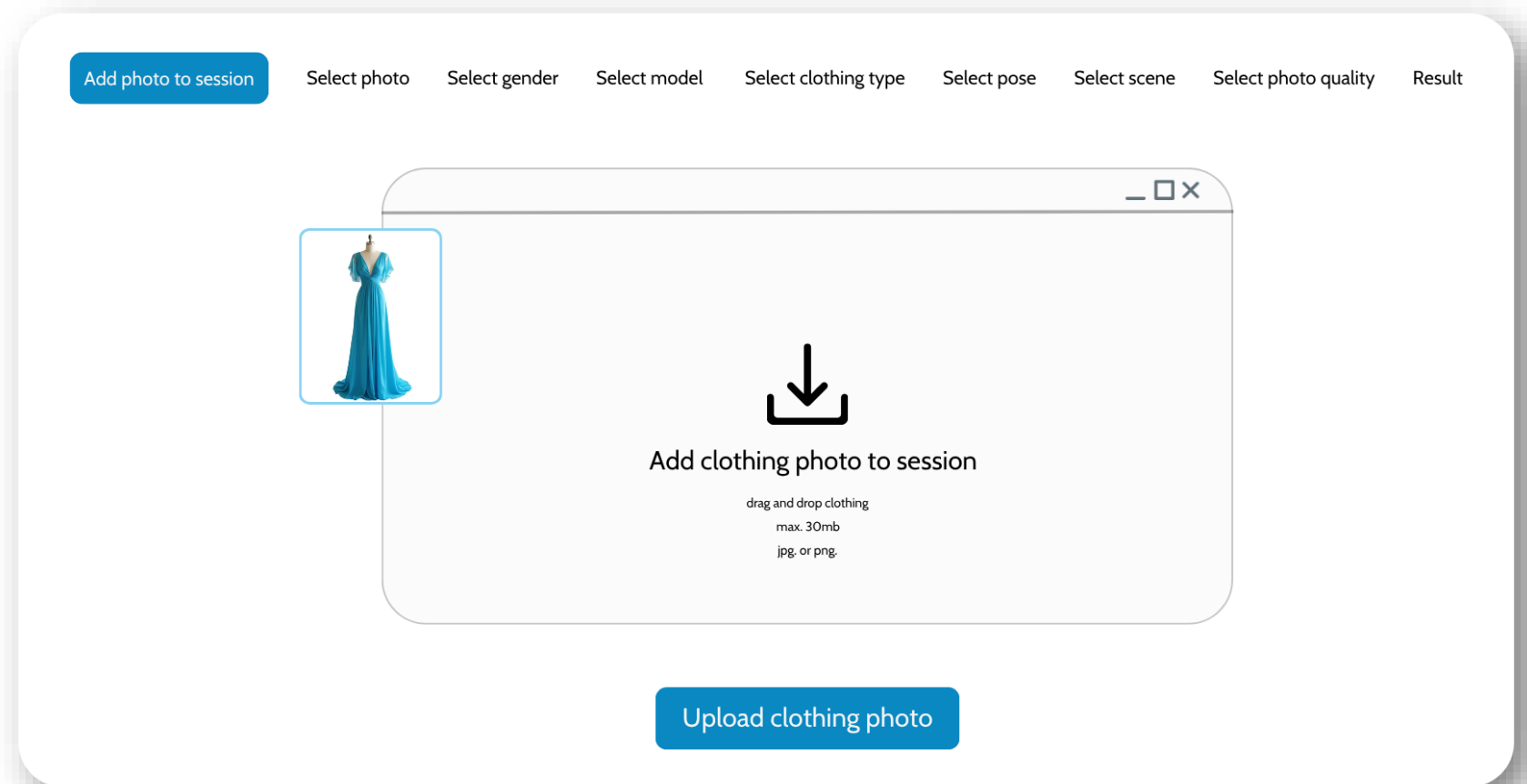
Fashion AI Bot supports images in PNG and JPG formats. The default resolution for generated visualizations is 800 px, with the option to request higher-quality images – for example, 4K for marketing purposes.

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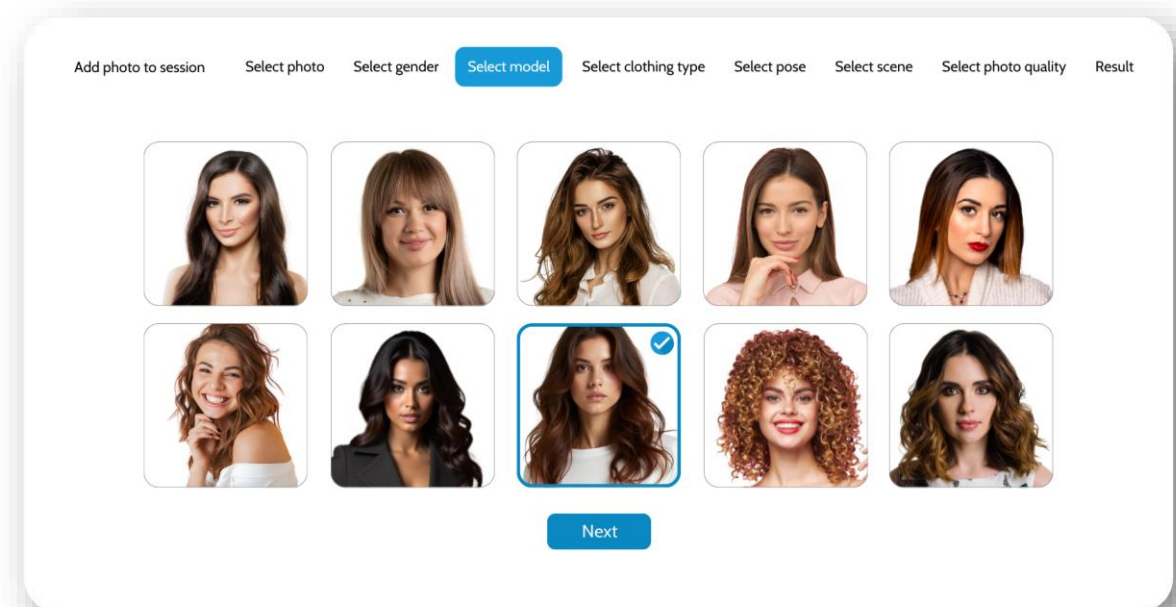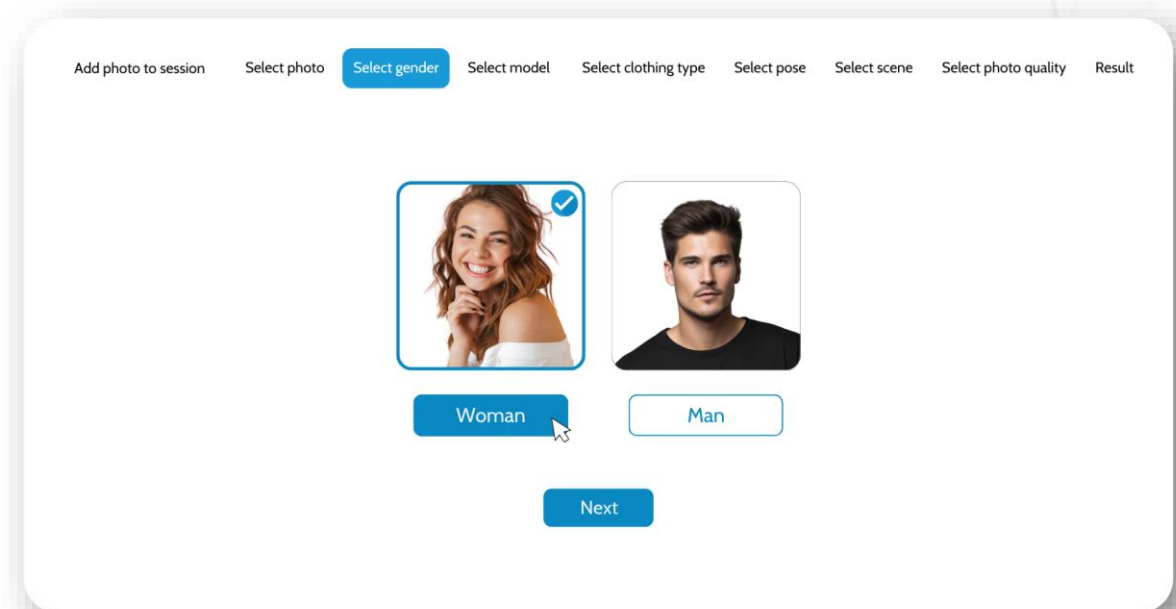
4 **How it works?**

Upload a clothing photo

The first step is to upload a product photo, such as a blouse, jacket, dress, or accessory. The image should be in PNG or JPG format, with a minimum resolution of 1024×1024 px.

Add photo to session   Select photo   Select gender   Select model   Select clothing type   Select pose   Select scene   Select photo quality   Result

Add clothing photo to session

drag and drop clothing
max. 30mb
jpg. or png.

Upload clothing photo

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4 **How it works?**

Select model

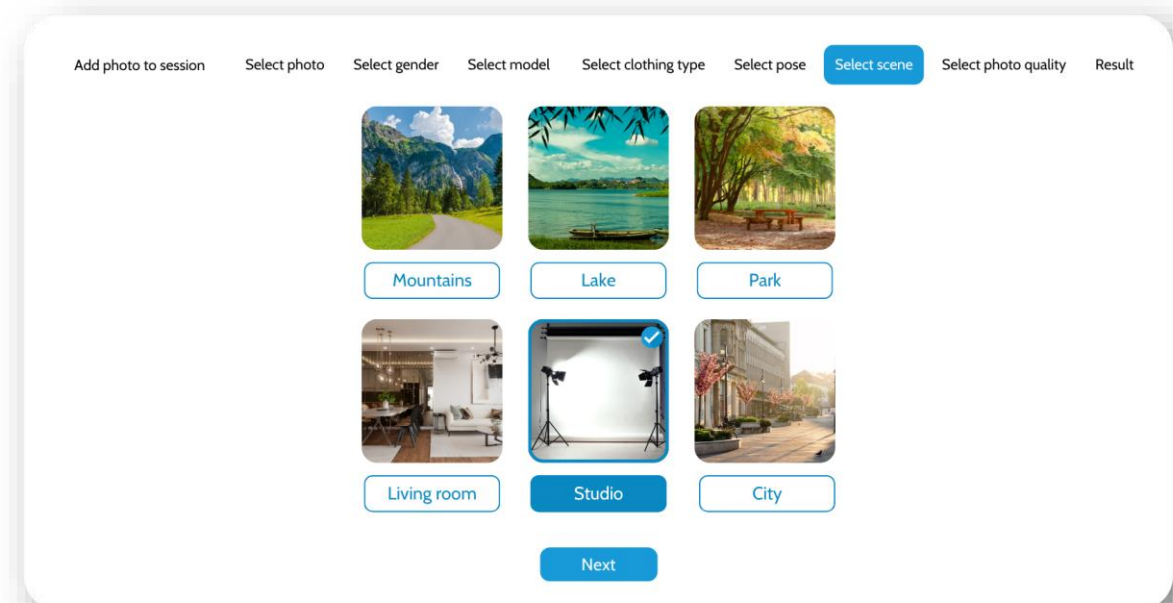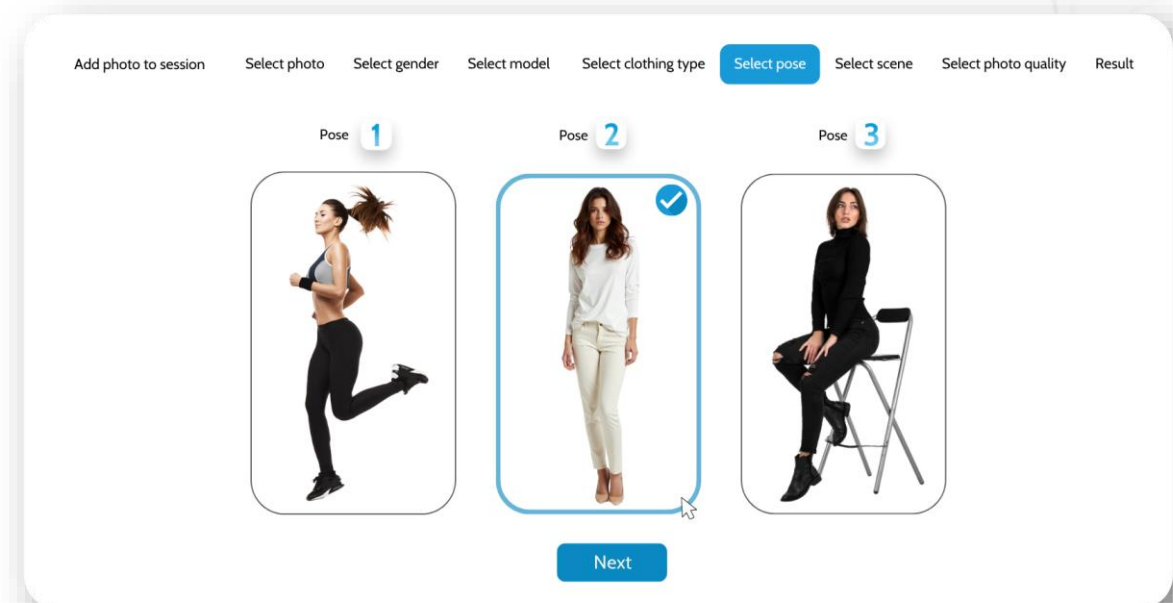From the available portfolio of models, choose the one that best reflects the brand's style in terms of appearance.

4 **How it works?**
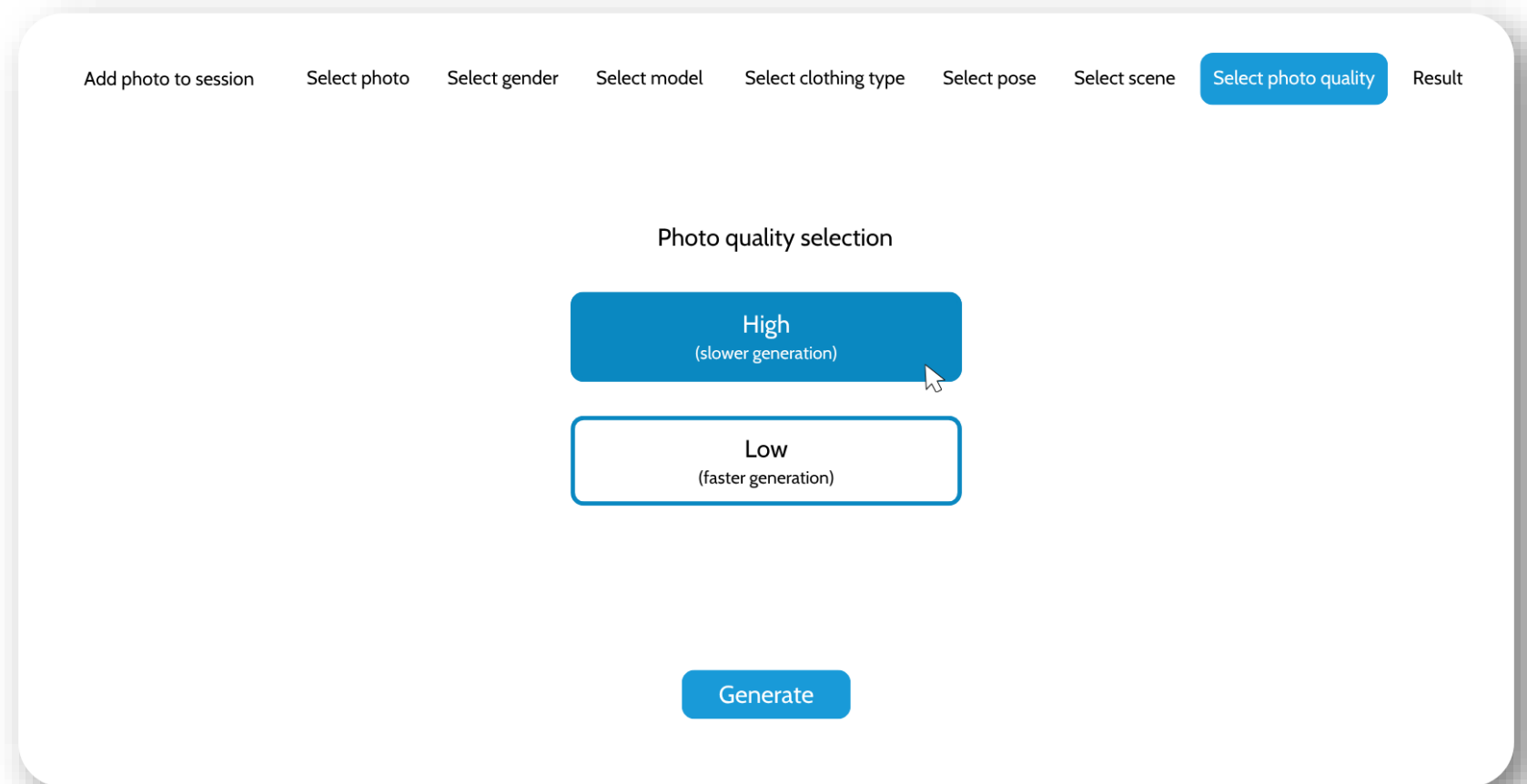
Set pose and scene

Define the presentation by selecting a preset combination of pose and scenery – classic studio, lifestyle, urban setting, or other options.

4 How it works?

Generate the image
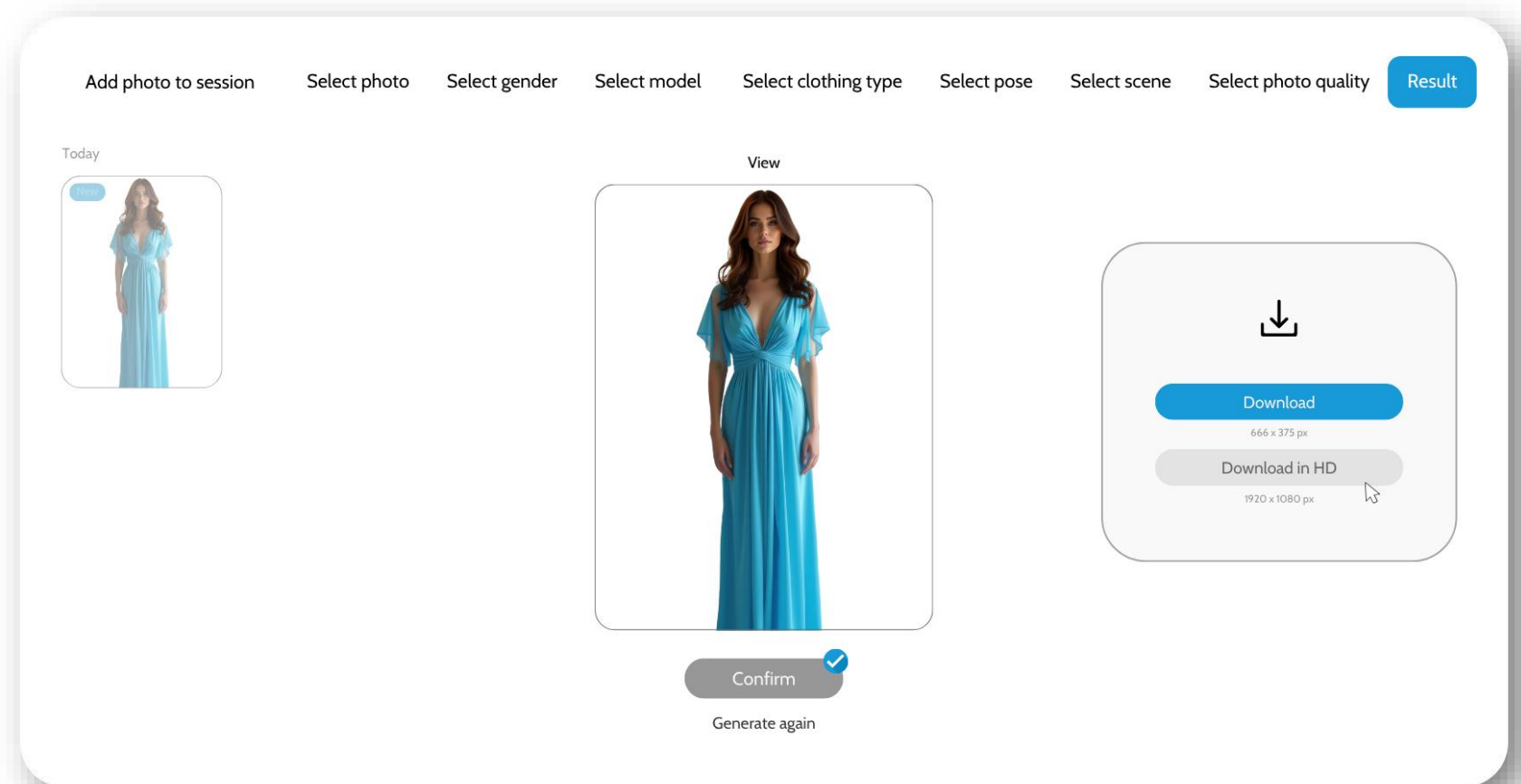
After clicking "Generate," the visualization is created.

Add photo to session   Select photo   Select gender   Select model   Select clothing type   Select pose   Select scene   **Select photo quality**   Result

Photo quality selection

High
(slower generation)

Low
(faster generation)

Generate
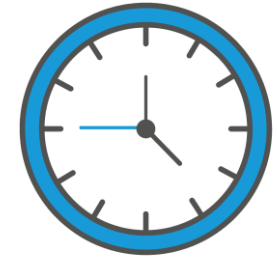
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4 How it works?

Review and download

Assess the result and verify details such as fabric texture and patterns. If the effect is satisfactory, download the finished image.
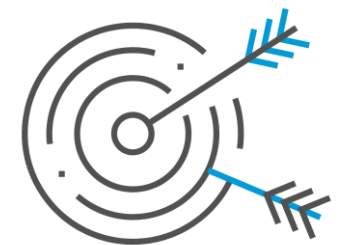
Add photo to session   Select photo   Select gender   Select model   Select clothing type   Select pose   Select scene   Select photo quality   Result

Today

View

Confirm

Generate again

Download
666 x 375 px

Download in HD
1920 x 1080 px

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5 Results

The time to introduce a new product to the store has been **reduced from several days to just a few minutes,** enabling much faster responses to market changes and consumer needs.
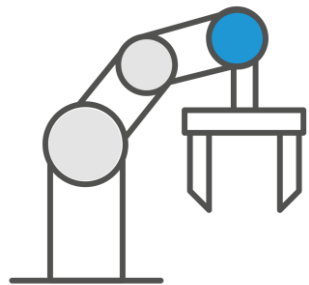
By eliminating physical fashion photoshoots, clients reduce production **costs by up to 70–90% without losing image quality.**

Fashion AI Bot accurately reproduces inscriptions, logos, intricate fabric patterns and complex cuts, ensuring that the generated visualizations maintain top quality and faithfully reflect the product's character, providing a significant **competitive advantage.**

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5 Results

Another benefit is the **increased appeal of product offerings** – clothes presented on figures in natural poses and settings attract user attention much more effectively than traditional "packshot" photos. This translates into improved conversion rates and longer time spent in online stores.

Thanks to the consistency of faces and silhouettes in the images, brands can maintain **a unified visual identity across entire collections** – regardless of the number of models or the season.

Contact us

Use the Fashion AI Bot in your company!

Contact us and we will prepare visualizations of your products.

LCloud Sp. z o.o.

Złota 59

00-120 Warszawa

+48 22 355 23 55

kontakt@lcloud.pl

Fast contact:

biuro@lcloud.pl

Business:

sale@lcloud.pl

+48 22 355 23 57