

Innovative Approaches in Ads Design: Case Studies

1. Problem Definition

Image inpainting is a computer vision task that involves filling in missing or corrupted parts of an image with plausible and visually consistent content. The goal of stable diffusion models in image inpainting is to address this task by leveraging diffusion-based processes.

Stable diffusion models utilize diffusion-based algorithms to propagate information from the known regions of an image to the missing regions. These algorithms iteratively update the pixel values in the missing regions based on neighboring pixel information. By gradually diffusing information over multiple iterations, stable diffusion models aim to generate visually coherent and semantically meaningful inpainted images.

The term "stable" in stable diffusion image inpainting refers to the ability of the model to produce consistent and stable results across different iterations. It ensures that the inpainting process does not introduce significant artifacts or distortions and maintains the overall visual quality and integrity of the completed image. Stable diffusion models typically incorporate regularization techniques and priors to guide the diffusion process and achieve more accurate and visually pleasing inpaintings.

1.1 Ads Design

AI-powered generative models have revolutionized ads design by enabling marketers and designers to create compelling visuals quickly and efficiently. These models learn from vast amounts of data and generate new designs that adhere to specific guidelines and objectives. With the ability to personalize content and explore creative variations, AI-powered ads design offers a powerful tool for capturing audience attention and delivering targeted messages. It has transformed the advertising landscape, providing opportunities for innovation and differentiation in a highly competitive market.

2. Method

Stable Diffusion Inpainting is a latent text-to-image diffusion model capable of generating photo-realistic images given any text input, with the extra capability of inpainting the pictures by using a mask.

Thus, in the background generation Stable Diffusion Image Inpainting task implemented as inference.

For the sake of background removal, Highly Accurate Dichotomous Image Segmentation (ECCV 2022) papers implemented as the inference.

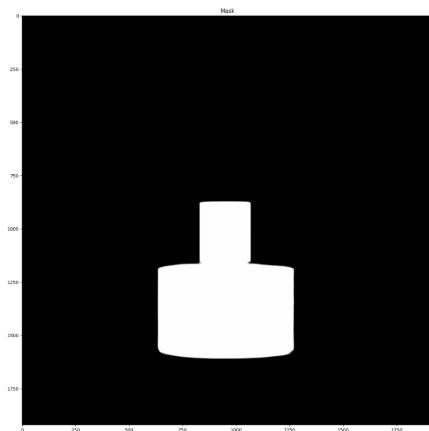
Background Remove Task:



Input

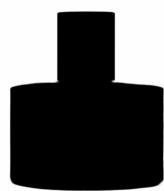


Output



Semantic Map Output (Masking)

Since we need to start SD inpainting task, we need to make reverse masking for generated output of the DIS.



Condition Image for SD

Qualitative Results:

