NMAM Institute of Technology

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Generating Fashion Accessories using GAN

Project on Neural Networks & Deep Learning

Bachelor of Engineering in

Artificial Intelligence and Machine Learning

Submitted By:

(5th Semester)

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2023-2024

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Abstract:-

This project constitutes a comprehensive exploration of the transformative application of Generative Adversarial Networks (GANs) within the dynamic landscape of the fashion industry. GANs, celebrated for their prowess in generating captivating visuals, have been deployed to reimagine and revolutionize the creation of fashion imagery, spanning a wide spectrum of elements from clothing and accessories to stylistic compositions.

By harnessing the capabilities of GANs, this project embarks on a creative odyssey, transcending conventional boundaries and paving the way for extraordinary design possibilities. The synergy between human creativity and machine intelligence is artfully showcased, illustrating how GANs empower designers to push the frontiers of traditional design constraints. This project serves as a testament to the innovative force of GANs in fashion, unlocking unparalleled creative potential.

Beyond artistic expression, this project delves into the far-reaching implications of GAN integration in the realm of fashion imagery. It examines how GANs contribute to the democratization of fashion design, ensuring greater accessibility and affordability to fashion enthusiasts. Moreover, it explores how this technological advancement can promote eco-conscious practices by offering personalized, on-demand fashion visuals, potentially reducing the ecological footprint of the fashion industry.

In an ever-evolving fashion landscape, this project takes its place at the forefront, exemplifying how art and technology harmonize to sculpt the future of fashion visuals. It offers an in-depth exploration into the groundbreaking fusion of human ingenuity and artificial intelligence, heralding a new era where the boundaries of creativity and customization are expanded, and the promise of a more sustainable and inclusive fashion world is brought closer to realization.

Introduction:-

In the ever-evolving world of fashion, the synthesis of technology and creativity is giving rise to unprecedented possibilities. This project represents a pioneering endeavour that employs cutting-edge technologies, specifically Convolutional Neural Networks (CNN), in conjunction with Generative Adversarial Networks (GANs), to redefine the production of fashion accessories.

As we delve into the intricacies of this project, we venture beyond the realm of traditional fashion design and manufacturing. The amalgamation of CNN and GANs provides a sophisticated framework for the generation of fashion accessories, from intricately designed jewellery to avant-garde handbags. It is within this technological convergence that we unravel a tapestry of innovation and artistry, where technical precision and aesthetic ingenuity harmonize to bring forth a new era of fashion creation.

The project explores the transformative capabilities of CNN, an advanced neural network architecture optimized for image processing, in conjunction with the generative prowess of GANs. These technologies, long-standing pillars of the artificial intelligence domain, not only enhance the creative process but also extend the boundaries of conventional fashion accessory design. The utilization of CNN, with its convolutional layers and feature extraction, aligns seamlessly with GANs' capacity to generate authentic and visually striking accessories.

This synthesis of CNN and GANs epitomizes the synergy between technology and fashion, promising an avant-garde approach to the creation of fashion accessories. As we delve deeper into the project, we unravel the intricacies of these technologies, their role in democratizing design, and the potential to minimize environmental impact by fostering personalized, on-demand, and eco-conscious fashion accessory imagery

System Requirements:-

Languages:-

- Python
- Jupyter-Notebook

Operating System:-

- Windows
- Linux
- MacOS

References:-

- https://youtu.be/AALBGpLbj6Q?si=Nd5P1-1l9Xe-mFFc