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Patent Search

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Abstract:

The proposed Face Detection and Degeneration System is a revolutionary innovation that combines Deep Convolutional Neural Networks (DCNN) with a degeneration component to achieve highly accurate and robust face detection capabilities while ensuring privacy preservation. Leveraging the power of DCNNs, the system autonomously learns hierarchical representations of facial features, enabling precise identification and localization of human faces in images or video streams. Additionally, the system includes a degeneration component that applies privacy-preserving transformations, such as blurring or pixelation, to detected faces, ensuring privacy protection where necessary. The system's applications span across various industries, including security, entertainment, healthcare, and human-computer interaction, contributing to enhanced security measures, personalized interactions, and improved patient care. By harnessing the potential of deep learning and addressing privacy concerns, the proposed system represents a groundbreaking approach to face detection and privacy preservation, with the potential to revolutionize the field of computer vision. Accompanied Draw 2]

Complete Specification

Description:[001] The proposed invention is a Face Detection and Degeneration System based on Deep Convolutional Neural Networks (DCNN). It falls within the field of Computer Vision, which focuses on developing algorithms and techniques to enable computers to understand and interpret visual data. The invention combines computer vision with artificial intelligence techniques to achieve highly accurate face detection and degeneration capabilities.

.BACKGROUND OF THE INVENTION

[002] In recent years, there has been an exponential growth in the development and application of computer vision technologies. The ability to understand and interpret visual data has opened up numerous possibilities in various fields, including security, surveillance, entertainment, and human-computer interaction. One of the fundamental tasks in computer vision is face detection, which involves locating and identifying human faces within images or videos.

[003] Traditional face detection algorithms relied on handcrafted features and statistical models, which had limitations in terms of accuracy and robustness. However, the advent of Deep Convolutional Neural Networks (DCNN), significant advancements have been made in face detection. DCNNs have the ability to automatically learn hierarchical representations of visual data, making them well-suited for complex tasks like face detection.

[004] Deep Convolutional Neural Networks operate by leveraging multiple layers of interconnected artificial neurons, where each neuron computes a weighted sum of inputs and applies a non-linear activation function. The layers in the network are designed to learn increasingly abstract features as information passes through them, ultimately leading to the recognition of complex patterns.

[005] While DCNN-based face detection systems have demonstrated impressive performance, there is still room for improvement. One area that requires attention

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