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Enhancing Color Perception

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Abstract: *Enhancing color perception using computer vision is a growing area of research aimed at improving the accuracy and richness of color representation in digital systems. Color perception plays a vital role in various applications, including image processing, robotics, healthcare, and virtual reality. This paper explores novel techniques for enhancing color perception through the application of computer vision algorithms, including color correction, image segmentation, and adaptive filtering. By leveraging machine learning models, the proposed approach enhances color differentiation and ensures consistent color reproduction across different lighting conditions and viewing environments. Furthermore, the integration of real-time processing allows for dynamic adaptation to the user's context, improving both user experience and system performance. The study presents the effectiveness of these methods through quantitative analysis and comparative evaluation with traditional color enhancement techniques. Ultimately, the research offers a promising direction for enhancing color perception in diverse practical applications, including accessibility for visually impaired individuals, automatic color grading in media, and improved interaction in augmented reality systems.*

Keywords: Enhancing color perception

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