

# Advancements and Integration in Computer Vision and Graphics Systems

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**Abstract:** *This review study looks at two important areas of recent work: improvements in computer vision algorithms and the incorporation of computer graphics into computer vision systems. We explore the development of computer vision in Part 1, highlighting its many uses in various fields as UAV image processing and automobile navigation. Even while real-time processing is essential in many situations, classic local algorithms which are highly valued for their speed often sacrifice image quality in favour of global algorithms. But recent work reveals subtle modifications to matching computations and data gathering techniques that support local algorithms, leading to performance that approaches that of global algorithms with respect to matching rate. In Part 2, an innovative method for combining computer vision and graphics is shown for creating a new telepresence and collaboration platform. Three key features of this system are its smooth integration of the physical and virtual worlds for input and output, its ability to enable remote collaboration between users, and its ability to facilitate interaction between different 3D graphics programs. This system is designed for future high-bandwidth networks and sends real-time fusions of dynamic computer graphics and vision data. This paper highlights the visual dimension and the mutually beneficial relationship between computer graphics and vision for telepresence and collaborative applications. Preliminary studies show promising possibilities for this technology to create immersive spaces suitable for various cooperative tasks across high-bandwidth networks. Our goal in doing this thorough assessment is to clarify the course of these.*

**Keywords:** computer vision