

# A Review on Modern Techniques in 3D Character Animation

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**Abstract:** *3D character animation is a pivotal aspect of digital graphics, essential for various applications such as films, games, and simulations. This review paper explores advancements in character animation techniques, including linear blend skinning, dual quaternion skinning, and physics-based approaches. Emphasis is placed on recent innovations aimed at improving the realism and computational efficiency of character deformations, especially non-rigid transformations. By examining key methodologies and their applications, this paper provides a comprehensive overview of the current state and future directions in 3D character animation.*

**Keywords:** 3D Animation, Character Animation, Linear Blend Skinning, Dual Quaternion Skinning, Physics-Based Animation, Non-Rigid Deformations