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3D Human Body Reconstruction Based on Multiple Viewpoints

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Abstract : The aim of this study was to improve the effects of human body 3D reconstruction. The MvP algorithm was adopted to obtain key point information from multiple perspectives. This algorithm allowed the capture of human posture and joint positions from multiple angles, providing more comprehensive and accurate data. The study also incorporated the SMPL-X model, which has been widely used for human body modeling, to achieve more accurate 3D reconstruction results. The use of the MvP algorithm made it possible to observe the reconstructed object from multiple angles, thus reducing the problems of blind spots and missing information. This algorithm was able to effectively capture key point information, including the position and rotation angle of limbs, providing key data for subsequent 3D reconstruction. Compared with traditional single-view methods, the method of multi-view fusion significantly improved the accuracy and stability of reconstruction. By combining the MvP algorithm with the SMPL-X model, we successfully achieved better human body 3D reconstruction effects. The SMPL-X model is highly scalable and can generate highly realistic 3D human body models, thus providing more detail and shape information.

Keywords : 3D human reconstruction, multi-view, joint point, SMPL-X
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