京都大学ICTイノベーション2013 学内パネル展示 出展概要

タイトル

3次元ビデオの時間的空間的編集

Spatial and Temporal Motion Editing for Interaction Scenes in 3D Video

概要

3D video is a real movie recording dynamic visual events in the real world as is: time varying 3D object shape with high fidelity surface texture. In capturing multi-object interaction scenes, multiple actors are usually required to be captured separately to avoid occlusions and some other problem, which will inevitably result in spatial and temporal mismatches. We proposed a method to realize spatiotemporally synchronized 3D video synthesis from independently captured motion sequences. Our main idea is to introduce Motion History Volume (MHV) for multi-object interaction representation and categorization. By doing constraint satisfaction based spatiotemporal alignment and path optimization, we can generate natural multi-object interaction scenes from separately captured data.

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産業界への展開例・適用分野

The potential applications of our work cover wide varieties of fields. For entertainment, it can be used in 3D game industry or movie industry for virtual character editing; As for education and business, it can be applied to teleconference system to help people communicate better; In addition, it can play an important role in the work of preserving cultures. (e.g. 3D archive of traditional dances or martial arts).

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