Choreographic Style Transfer

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Context: This Masters thesis will take place in the IMAGINE team at INRIA in Montbonnot. It is offered to Masters students interested and trained in Computer Graphics and Computer Vision.

Objectives: Animating virtual dancers is a difficult problem in animation. In this internship, we would like to create animation directly from videos of live dancers by recognizing and transferring their distinctive styles. More specifically, the goal of the internship will be to design methods for (i) analyzing choreographic style of dancers in video using computer vision and (ii) automatically transferring those styles to virtual dancers. For the first part, we will extract the dancer's pose from video using existing 2D pose estimation methods [1] and fit parametric motion curves to the extracted body part locations in order to correct noisy input and missing data. For the second part, we will extend the example-based method of [2] for the case of animated choreographies. To complement this previous work, we will fit space-time line-of-action curves [3,4], which have been shown before to provide a useful abstraction to dancer movements, and train simple physical models [5] of the recorded motions taking into account their movement qualities [6].

References:

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