Modelling the Distribution of Human Motion for Sign Language Assessment

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Sign Language Assessment (SLA) tools are useful to aid in language learning and are underdeveloped. Previous work has focused on isolated signs or comparison against a single reference video to assess Sign Languages (SL). This paper introduces a novel SLA tool designed to evaluate the comprehensibility of SL by modelling the natural distribution of human motion. We train our pipeline on data from native signers and evaluate it using SL learners. We compare our results to ratings from a human raters study and find strong correlation between human ratings and our tool. We visually demonstrate our tools ability to detect anomalous results spatio-temporally, providing actionable feedback to aid in SL learning and assessment.