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Video-Based System for Support of Robot-Enhanced Gait Rehabilitation of Stroke Patients

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Abstract : We present a dedicated video-based monitoring system for quantification of patient's attention to visual feedback during robot assisted gait rehabilitation. Two different approaches for eye gaze and head pose tracking are tested and compared. Several metrics for assessment of patient's attention are also presented. Experimental results with healthy volunteers demonstrate that unobtrusive video-based gaze tracking during the robot-assisted gait rehabilitation is possible and is sufficiently robust for quantification of patient's attention and assessment of compliance with the rehabilitation therapy.

Keywords : video-based attention monitoring, gaze estimation, stroke rehabilitation, user compliance
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