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Abstract

骨格認識を用いたクラシックギター演奏時における姿勢の評価手法の提案
Proposal of a Posture Evaluation Method for Classical Guitar Performance
Using Bone Skeletal Recognition

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Classical music is becoming more and more difficult as more and more techniques are used in modern music. Especially in classical guitar, there are more than 60 techniques, and it is very difficult to play a piece that incorporates all of them correctly. Concentrating on the technical and expressive aspects of the music reduces the awareness of posture.

The purpose of this study is to create opportunities to reduce poor posture by evaluating posture during a piece of music using a system developed for expert classical guitar players that uses skeletal recognition to determine whether a player's posture is good or bad.

The results showed that the percentage of bad posture increased in the order of the age of the piece: Renaissance/Baroque, Classical/Romantic, and Modern, with a significant difference or trend for each piece (Renaissance/Baroque and Classical/Romantic: $p=.075$; Classical/Romantic and Modern: $p=.021$). This is suggested to be due to an increase in the amount of technical skill. Significant differences were also found in both neck angle ($p=.030$) and torso angle ($p=.019$) due to skeletal differences between the sexes. This difference may be due to physiological differences in the direction of pelvic rotation and muscle mass.

We believe that the system developed in this study can be used for a simple evaluation of posture during classical guitar performance, and that it can be used practically by using MediaPipe.

Keywords: classical guitar, posture, MediaPipe, pose detection