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Signbot , sign-language performing robot , based on sequential motion of servo motor arrays (Conference Paper)

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Abstract
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This paper presents the development of SignBot, a 3D printed robot which can perform Malaysian Sign Language (MSL). This work is the first attempt to eliminate the barriers of communication between hearing impaired individuals and the mainstream society as it is the first robot to perform MSL. The signing, in this work, can be done with two hands. The robot hands were developed with detailed finger joints. Micro servo motors were installed to allow for the signing motions for the relevant joints of selected letters, numbers as well as phrases for emergency cases. The sequential movements of the servo motor arrays are stored in the database to represent particular signs, and retrieved by the microcontroller based on the speech input detected, and finally executed accordingly by the servo motors to perform the sign. © Springer International Publishing AG, part of Springer Nature 2019.

Indexed keywords

Engineering controlled terms: (Audition)

Engineering uncontrolled terms: (Finger joints) (Hearing impaired) (Malaysian sign languages) (Microcontroller-based) (Robot hand) (Sequential movements) (Sign language) (Speech input)

Engineering main heading: (Intelligent robots)

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