3-DIMENSION HAND-DRAWN GESTURE RECOGNIZE USING FUZZY ART

Nama mahasiswa : Achmad Subhan Khalilullah
NRP : 2208205739
Pembimbing : Moch. Hariadi, S.T., M.Sc., Ph.D.

ABSTRACT

3-dimensi gesture interaction gave ease for users to control their act in a game. A player could use any gesture according to his habits. This freedom of movement while playing a game resulted in the change of orientation. A fuzzy ART based 3-dimension non-trajectory recognition system was done in this research. The gesture was generated from 3-axis MEMS sensor device, which signal shape of each axis was applied as fuzzy ART with complement input. As a result, a value of average recognition rate 85% on vigilance 0.65. 6 type gestures were used in the recall test with total 540 exemplar data. This resulted a 69% of recognition accuracy, 2 type of gesture with direction and declivity feature component had a recognition accuracy of 90%, which 50% of error in the recognition caused by resemblance of training data within 2 gestures.

Keywords: 3D Hand-Drawn Gesture, Accelerometer-based motion capture, Fuzzy ART.