Survey Paper of Indian Sign Language Gesture System Weighted Euclidean Distance Based

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Abstract: *This is a Social integration of the deaf and dump people. They people communication media only finger of hand movement, they are interact with each other of hand movement but normal people doesn't communicate with deaf and dump people because the normal people can't undusted language of sign. This cause the isolation of deaf people in the society. In this paper a method of image capturing and filter of that images conversion RGB to HSV and distance method is city block , use in Eigen value of particular image and convert in to text format and text word converted in voice format. So normal people can understand sign language and as well as communicate also. This invention helpful for deft and dump people and normal people*

Keywords: Deaf, Dump, Gesture, HSV, Hand Gesture Recognition.
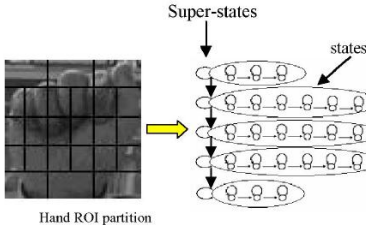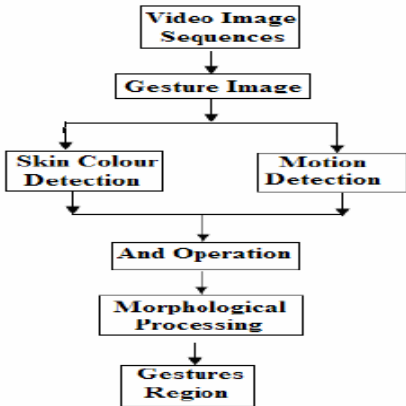
1. Introduction

Sign language is used by millions of sensory people everyday. In recent years, sign language automatically describe through text or speech that's why transformation of information between deaf and dumb communities is much easier. ISL alphabets are derived from British sign language and French language. Many researches have been done over sign languages , but only few of them works like- ISL. Since for normal people it is difficult to understand the sign language of deaf and dumb people. So In this project I am going to research for different authors who have researched for ISL, British and ASL with different methods and algorithms. I am using city block formula for a distance based Image capturing so that image will be clearly seen & translate in a text fromat and generate a voice. The Image will be converted into eign value and stored in database and compare the text (Alphabet format) which is suitable for that value. Then showing the text and that text will be converted in a voice format.

2. Literature Survey

In this literature Survey I want to show a comparison between different papers

Name of paper	A new Approach Dedicated to Hand Gesture Recognition	Gesture Segmentation Based on Monocular Vision Using Color and Motion Cues	Artificial Neural network Based method for Indian Sign Language Recognition
Introduction	A new pseudo 2-D hidden markov model (P2DHMM) structure dedicated to the time series recognition. T-com P2DHMMs, is Presented through this T- Com P2DHMM Structure was used to develop a complete vocabulary of 36 gestures including the America sign Language (ASL) alphabet and digits	Gesture segmentation is the first and most important step in sign language recognition. In this paper a method of gesture method sequence based on monocular vision is presented by skin color and motion cues, gestures are separated from video images sequence reliably and completely using the mathematical morphology method	In this paper, we propose a method for the automatic recognition for fingersplling in Indian sign language. The proposed method use digital image processing techniques and artificial neural network for recognizing different signs.
Method	In this research there are three kinds of parameters in the P2DHMMs 1. Hand image is two dimensional 2. Markov transition parameters 3. Super-state transition and state transition probabilities. $$\vec{a}_{kl} = P(r_{t+1} = l \mid r_t = k), \quad 1 \le k, l \le N$$ $$a_{ij} = P(q_{t+1} = j \mid q_t = i), \quad 1 \le i, j \le M$$	In this paper that is gesture motion region is obtained by the subtraction between the current gesture image and background image in order to further achieve gesture motion target detection 1. Background determination 2. Gesture acquisition 3. Motion object extraction The movement region is separated from the image sequence $$d(x, y) \begin{cases} = 1, when \mid f_1(x, y) - f_0(x, y) \mid \ge T \\ = 0, others \end{cases}$$ SKINCOLOR DETECTION A)color space B) Skin color model C) Skin color model-total error probability	In this paper we propose a method that translates the finger spelling in Indian sign language to textual. The proposed method has four major steps. 1. Image Acquisition and pree-processing 2. Hand segmentation 3. Classification 4. Feature Extraction equations- the proposed shape feature is derived from the distance transform of the binary image A)Distance Transformation-the equation for computing the distance between two pixels with coordinates two points P=(x,y) and Q=(u,v) is defined as

Paper ID: 29041508

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		$Pe = P_\alpha(\eta)P(\overline{skin}) + P_\beta(\eta)P(skin)$ Where η is decision threshold. $P_\alpha(\eta)$ is false alarm probability: $P_\alpha(\eta) = P(x \in skin \mid \overline{skin})$ $P_\beta(\eta)$ is miss probability: $P_\beta(\eta) = P(x \in \overline{skin} \mid skin)$	$d_4(P,Q) = \mid x - u \mid + \mid y - v \mid$ The chessboard distance between P & Q is defined as $d_8(P,Q) = \max(\mid x - u \mid, \mid y - v \mid)$. The Euclidean distance between P & Q is defined as $d_e(P,Q) = \sqrt{(x - u)^2 + (y - v)^2}$
Algoritm	Evaluation Algorithm In that algorithm the super-state transitions to the conventional HMM parameter set. therefore it is simple extension to conventional HMM. Fig: P2DHHM	1. In this paper algorithm is used density function for matrix 2. Gesture segmentation process Fig: Gesture segmentation implementation process based on monocular	1.Fourier transformation and classification using KNN Method 2. city block distance
Author	Nguyen Dang Binh, Toshiaki Ejima (Intelligence Media Laboratory, Kyushu Institute of Technology) Japan (IEEE 2006)	Cao Xin-yan, Liu Hong-fei, Zou Ying-yong Collega of Electronic Information Engineering,Changchun University, Changchun, china Collage of transportation, jilin University, Changchun, china Changchun University, Changchun,China (IEEE 2010)	Adithya V. ,Vinod P. R. Department of Computer Engineering College of Engineering Chengannur Kerala, India Usha Gopalakrishnan Department of Computer Engineering Musaliar College of Engineering and Technology, Pathanamthitta Kerala, India (IEEE 2013)

3. Conclusion and Future Work

After reading and analyzing all the researches done by the above comparison I came to the conclusion that these methods are very simple but that can be simplified more further. Since to do that I will be using city block Euclidean distance based formula. In this method the input image will be transferred to skin flittering then to hand cropping then to binary image then to gray image which shows the eign value that value is converted to text match in a database and translate a voice. This is the main feature I will be going to work.

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