Bengali Sign Language to Text Conversion using Artificial Neural Network and Support Vector Machine

**Summary:**

Microsoft Kinect is used to capture the input, which is the hand sign performed in front of the camera. The captured hand sign is recognized, after joint and wrist detection, and by assessing the contours. Contour feature is extracted and is run through an SVM for the classification of the sign. The proposed model is validated using a dataset of both male and female hand gesture images, achieving an 84.11% classification accuracy. The paper proposes a faster recognition mechanism and incorporates a five-layer neural network, which serves the purpose. The use of the Kinect camera as an input device provides a clearer image and faster image processing capability to the system.

**Advantage:**

1. The system provides a faster recognition mechanism.
2. The use of Microsoft Kinect provides clearer images and faster image processing capability.
3. The proposed model utilizes a combination of artificial neural networks and SVM, which has shown good performance in sign recognition systems.

**Disadvantage:**

1. The proposed system has been tested on a limited dataset, and its performance may vary when tested on a larger and more diverse dataset.
2. The paper does not provide information about the cost and feasibility of implementing the proposed system in real-world scenarios.
3. The paper does not compare the proposed system with existing sign language recognition systems, limiting the ability to assess its performance against existing solutions.

<https://www.researchgate.net/publication/322998004_Bengali_Sign_language_to_text_conversion_using_artificial_neural_network_and_support_vector_machine>