Literature Survey- Real Time Communication Using AI for Specially Abled

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Introduction:

Technology has a huge impact on our society. It develops all the fields that can never be developed. Everyday we can see technology growing rapidly and we can see new ideas, new projects are developing all around the world. Our concern is for the development of a translator which is used to translate sign language to natural language because it is impossible for specially abled people to communicate freely because people really can't understand the sign language.

Literature Papers:

Title : The VirtualSign Channel for the Communication Between Deaf and Hear Users.
Author : Tiago Oliveira, Nuno Escudeiro
Description : To improve the efficiency of the communication between deaf and hearing people in an educational setting. The VirtualSign platform involves translation from text to sign and translation from sign to text.

Title : Deep Learning for Sign Language Recognition: Current Techniques, Benchmarks, and Open Issues.
Author : Muhammad Al-Qurishi, Thariq Khalid and Riad Souissi.
Description : When information is collected in multimedia format, some of the architectures that can be used include Long Short Term Memory, Recurrent Neural Networks, and GRU. In many cases, multiple types of networks were combined inorder to improve final performance. Those models are capable of processing information from different sources.

Title : Sign Language Recognition Using Multiple Kernel Learning: A Case Study of Pakistan Sign Language.
Author : Farman Shah, Muhammad Saqlain Shah, Waseem Akram.
Description : The use of SVM with multiple kernel learning which include three well-known kernel functions i.e. Gaussian kernel, linear kernel and polynomial kernel. The basic idea behind the multiple kernels is to find out the best suitable kernel and use it for the understudied problem. They recognize the position of fingers in 2-D, although this approach is robust for PSL recognition. For classification, multi-class SVM is applied for the dictionary size of over 3400 samples.

Title : American Sign Language Words Recognition Using Spatio-Temporal Prosodic and Angle Features: A Sequential Learning Approach.
Author : Sunusi Bala Abdullahi and Kosin Chamnongthai
Description : Based on Fast Fisher Vector (FFV) and Bi-directional Long-Short Term Memory (Bi-LSTM) method, a large database of dynamic sign words recognition algorithm called bi-directional long-short term memory-fast fisher vector (FFV-Bi-LSTM) is designed. This algorithm is designed to train 3D hand skeletal information of motion and orientation angle features learned from the motion controller (LMC).

Conclusion:

These are some literature papers that focus on sign language. These papers help to improve the accuracy for correctly predicting sign language and also helps to translate from sign language to natural language and vice versa. It also improves the people to trust the technology inorder to communicate freely.