Abstract Vision and Perception – Project presentation

For the hearing-impaired people, conversations through sign language can be challenging when the others they are communicating with can't recognize the signs they made. These are the reasons that led us the to develop a project that concerns producing a model which can recognize fingerspelling-based hand gestures[1] of the American Sign Language through a vision-based model.

We'll try our developed neural network on more datasets beginning with the Sign Language MNIST and ASL Alphabet and comparing their results. We're using the *Convolutional Neural Networks*[2] to achieve this goal because of their effectiveness in terms of memory requirements and generalization accuracy.

It's of our interest, analysing the results we get applying our model of CNN on more languages (e.g. LIS -Lingua dei Segni Italiana) studying its accuracy as well.

[1] Fingerspelling means to spell out words character by character and word level association which involves hand gestures that convey the words mimic.

[2] The Convolutional Neural Network (CNN) is a class of artificial neural network applied to analyse visual imagery based on the shared-weight architecture of the convolution kernels or filters that slide along input features and provide translation-equivalent responses known as feature maps.