Description of Research Problems

We are exploring the application of Convolutional Neural Network in image processing. We will try to use different architectures on smaller datasets for initial research and then select maybe two architectures to perform experiments so as to test accuracy of both. We aim to make simpler CNN architecture and derive better performance out of it compared to existing complex Neural Networks. We will be using the American Sign Language for the experiment and try to train the network to predict better results when given the input image of a hand gesture. We use a dataset of segmented images captured with a depth-sensor camera for different subjects.

Scope of the Project

To analyze the performance of simpler convolutional neural networks with limited feature set and minor changes in the kernel size, stride and try using dropout layer. We might also work with different Layers architecture.

For the project, dataset we are using is large enough for us to divide the data for train, test and validate. We will try different things on different datasets and try to get the most accurate model.

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