

Abstract— In this age of globalization, where technology has impacted many demographics, including preschoolers, there are numerous detrimental effects on children from technology, such as stunted motor skill development. Applications for practicing writing and counting are one way to help preschoolers develop their cognitive skills. A system to identify children's handwriting in the form of an image classifier employing a convolutional neural network (CNN) is needed for the creation of an application like this. So, in this study, researchers built the system using CNN. This study seeks to learn how to construct the CNN algorithm with the Softmax activation for image classification, how to evaluate the CNN method's performance for numeric image classification, and create Drawing Apps for Kids utilizing Streamlit. The dataset utilized consists of two-dimensional images of the numbers 0 to 9 that have been manually drawn using the paint program. Each data class's 200 images have a varied resolution, making up a total of 2000 images in the collected data. Later, the data will be split into training data (70%) and validation data (20%), and test data (10%). Five convolutional layers with the ReLU activation function, one layer with a filter size of 64, and two layers with a filter size of 32 make up the CNN model. The researcher additionally used five pooling layers, each with a 2x2 matrix size. With training data that has the same resolution as 350x350 pixels, the CNN model is trained.

Keywords— *Image classifier, Handwriting, Convolutional Neural Network, Adam Optimizer.*