

I. INTRODUCTION

In this age of globalization, science, and technology are advancing more quickly with each passing year. Globalization, however, is a double-edged sword that, when used intelligently, can help with a variety of issues, but when used carelessly, it can also make things more difficult for oneself [1]. The creation of gadgets is one outcome of the advancement of science and technology.

Gadgets are valuable communication tools that are essential to modern living. With the help of gadgets, people may communicate more easily, find and share information, get new perspectives, and ease a variety of tasks in their daily lives [2]. Now, it is possible to assume that every person on Earth has a device. Nearly everyone has utilized electronics in their everyday activities, from workers to toddlers and kids from all walks of life. As a result, certain groups of people find value and benefit in devices [3].

Due to the importance of early education for toddlers and preschoolers, researchers decided to explore this phenomenon. It is undeniable that toddlers and preschoolers are already capable of using technology. To prevent the device itself from having a detrimental impact on the child, parents must still watch over their children when they use the device. Though they frequently utilize electronics, children's motor skills must also be developed. The development of fine motor skills is hampered by gadgets, which is one of their detrimental effects. Children's fine motor skills may not develop to their full potential if they frequently use devices that are easy to touch [4].

Early childhood is a prime time for rapid growth in all areas of development, including the physical, motor, intellectual, emotional, linguistic, and social. The emergence of skills, particularly motor skills, happens relatively quickly. The development of children from birth to age two is highly correlated with their physical state and state of health. Then, during the next three to five years, its growth is characterized by attempts to establish independence and socialization. For the start of later life, these phases are crucial [5].

As a foundation for integration into the Drawing Apps for Kids application utilizing Streamlit, researchers constructed a deep learning-based system using convolutional neural network (CNN) algorithms, the Adam optimizer, and Softmax activation. The CNN approach is used by the researchers because CNN is a Deep Neural Network with a deep network level that is frequently used in image data processing. The researcher's approach works to categorize input data in the form of handwritten numbers 0–9 that are utilized as correctors in the application Drawing Apps for Kids.

The present paper aims to implement the CNN Algorithm with Softmax Activation for the classification of numeric images 0–9, which will later serve as the framework for the development system for Drawing Apps for Kids, evaluate the CNN Algorithm with Softmax Activation's performance in the classification of numerical images, and create Drawing Apps for Kids applications.

The CNN approach and the Python programming language are used to create the picture classification system. ReLU and Softmax activation functions are the ones employed in the CNN model. The dataset that is utilized for training, validation, and testing consists of 200 hand-painted images of the numerals 0 to 9, made with Microsoft Paint. Afterward, the Python programming language and the Streamlit library are used to create the Drawing Apps for Kids application.