DSC680
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Proposal
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Learn To Write Your Letters

Topic

Learning to write your letters is hard. This application aims to help those who would like help writing the alphabet with their mouse.

Business Problem

In today's fast-paced digital world, it's more important than ever for people of all ages to be comfortable with writing using a mouse or finger. That's why I've developed an application that helps users practice writing letters with these modern input methods.

Datasets

The data will be created from the application. The application will have a training button that will allow the user to write all the letters in the English alphabet to help establish a good training dataset for the model to use.

Methods

I will utilize TensorFlow's Sequential class and deep learning techniques to develop the application. The application will generate letter images, serving as the training dataset. Convnets, data augmentation, and dropout layers will be employed to prevent overfitting. Once trained, users can practice letter writing using the application. It will prompt users to write specific letters and provide feedback on accuracy.

Ethical Considerations

Ethically, the application may be used inappropriately. Training images that are not the correct letters or inappropriate images could be entered into the training part of the application and the application

would not be able to filter them out.

Challenges/Issues

Achieving a low loss value and high validation accuracy with the training and validation data poses a significant challenge in any learning model like this. Additionally, a crucial obstacle is generating an adequate amount of training data to ensure the model's effective performance.

References

Busteed, D. (n.d.). *Build a Handwriting Recognition App with Python, Tensorflow, and Flask*. Retrieved from https://www.youtube.com/watch?v=lpWIf-iH7DA

Purwoko, P. (n.d.). *How To Deploy Digit Recognition Model Into Drawing App*. Retrieved from Analytics Vidhya: https://medium.com/analytics-vidhya/how-to-deploy-digit-recognition-model-into-drawing-app-6e59f82a199c