Design of Experiments:
Handwritten Recognition using Neural Networks

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COSC 495-001
10/28/2020

Hypothesis

Problem:

- A program that not only recognizes handwritten digits from an image, but handwritten letters as well.

Solution:

- Alter the Convolutional Neural Network used for the digit recognition to inherently complete the same process in order to recognize handwritten letters.

Result:

The program can now recognize and output both handwritten digits and letters from an image.

Experiment Setup

Primary Metric:

Metric A: Accuracy of the digits and letters recognized from the image

Secondary Metric:

Metric B: The time it takes for the data recognition depending on the size of the image used.

Variation #1 Design

Variation 1 of the design process will consist of the following:

Run the program utilizing an image that contains handwritten digits only -

This will test whether the Neural Network is properly setup to detect and recognize handwritten digits within an image.

Variation #2 Design

Variation 2 of the design process will consist of the following:

Run the program utilizing an image that contains handwritten letters only -

This will test whether the Neural Network is properly setup to detect and recognize handwritten letters within an image.

Variation #3 Design

Variation 3 of the design process will consist of the following:

Run the program utilizing an image that contains BOTH handwritten digits and handwritten letters-

This will test whether the Neural Network is properly setup to detect and recognize not only handwritten digits, but letters as well within an image.

THANK YOU