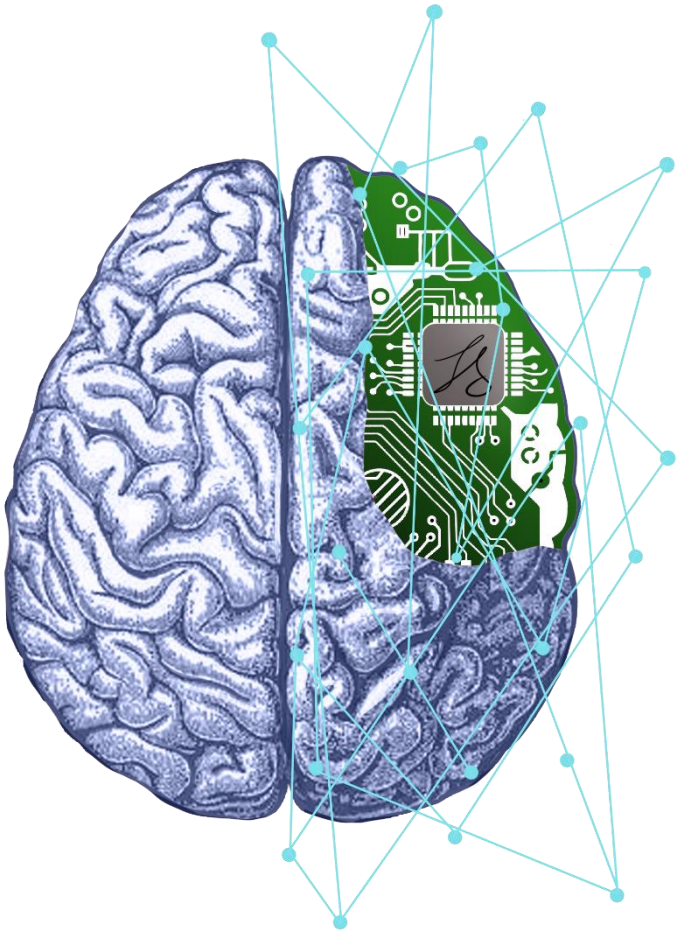
From Nothing to Neural Network



User Manual

Lorin Sweeney: 15707415

Neil Lapuz: 15107230

Table of Contents

General 1

Hand Written Number Recognition Program 1

Tooltip 4

Optional Quizzes 4

Model Examination 5

General

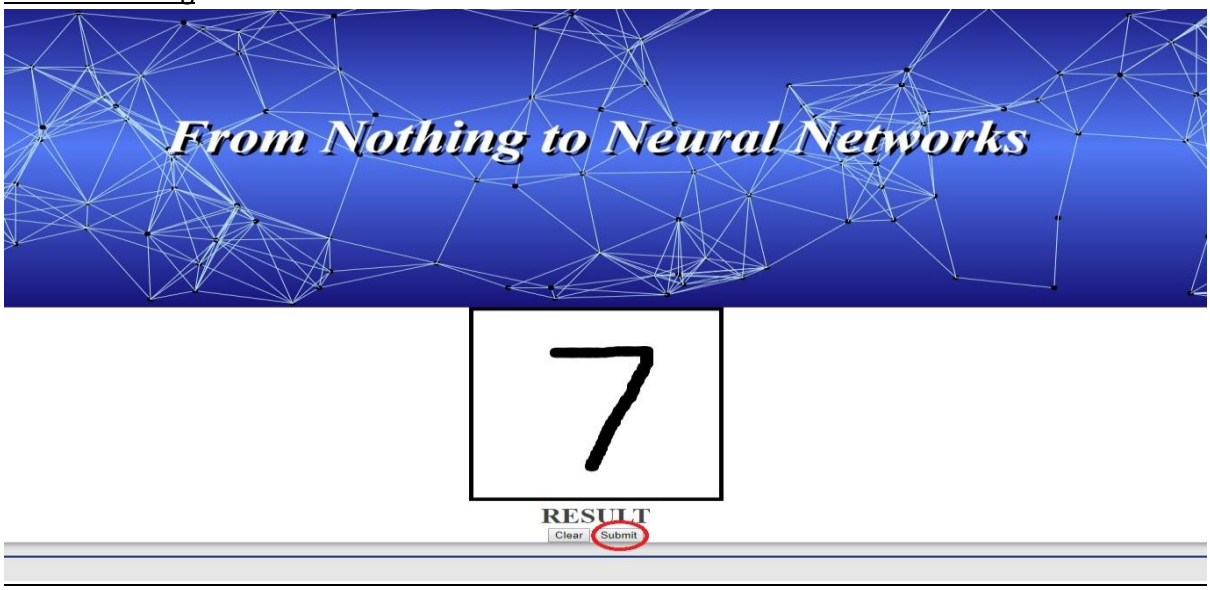
Accessing the Web App is as straightforward as typing in the URL in the search bar of the browser and hitting enter. This will automatically bring the user to the homepage of the Web App. Similarly, through exploring around the system, a navigation bar is provided to bring the user to their desired page, presenting them the learning material for that topic.

Hand Written Number Recognition Program

1. Drawing on the Canvas

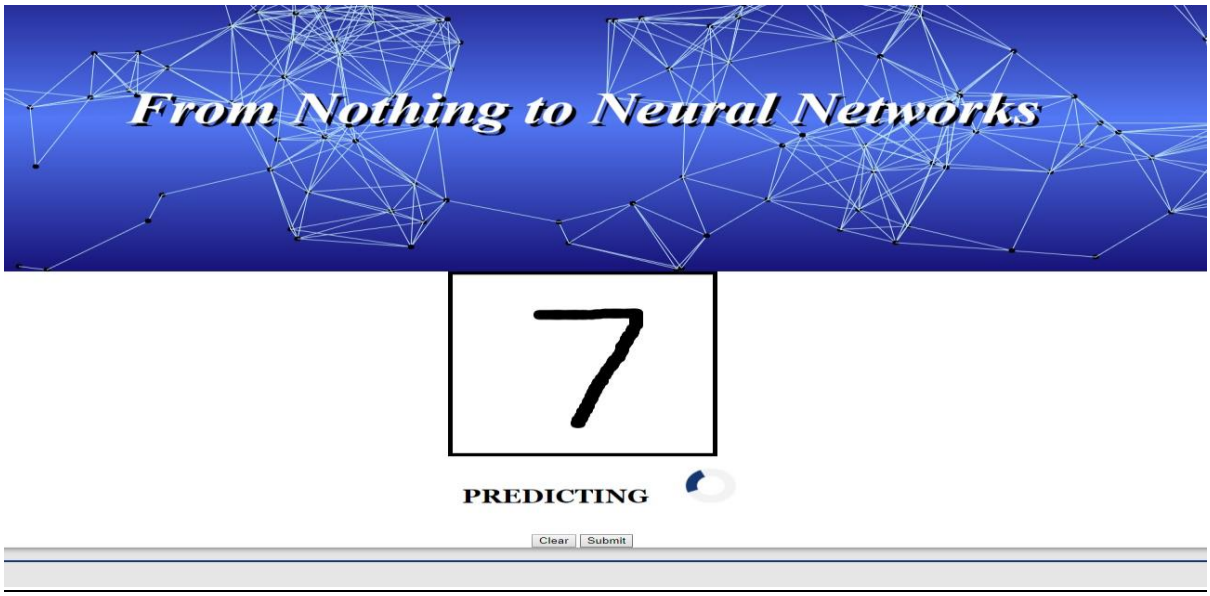
In order for the user to draw, the user's cursor must be on the canvas. Once it is, the user has to click and hold the left mouse button to draw continuously. To stop drawing, the user has to release the left click of the mouse. This process can then be repeated to finish their drawing.

2. Submit Drawing



Once the user finishes with their drawing, the user can then click on the submit button, as shown on the screenshot above, to submit their drawing to the program.

3. Waiting for the Prediction



Once the drawing has been submitted, the user must then wait for the prediction of the program. Upon then, they are presented with a loading bar as shown on the screen shot above.

4. Presented Result

Once the program has finished loading, the system then presents the user with the resulting output, based on what it "thinks" the user has drawn.

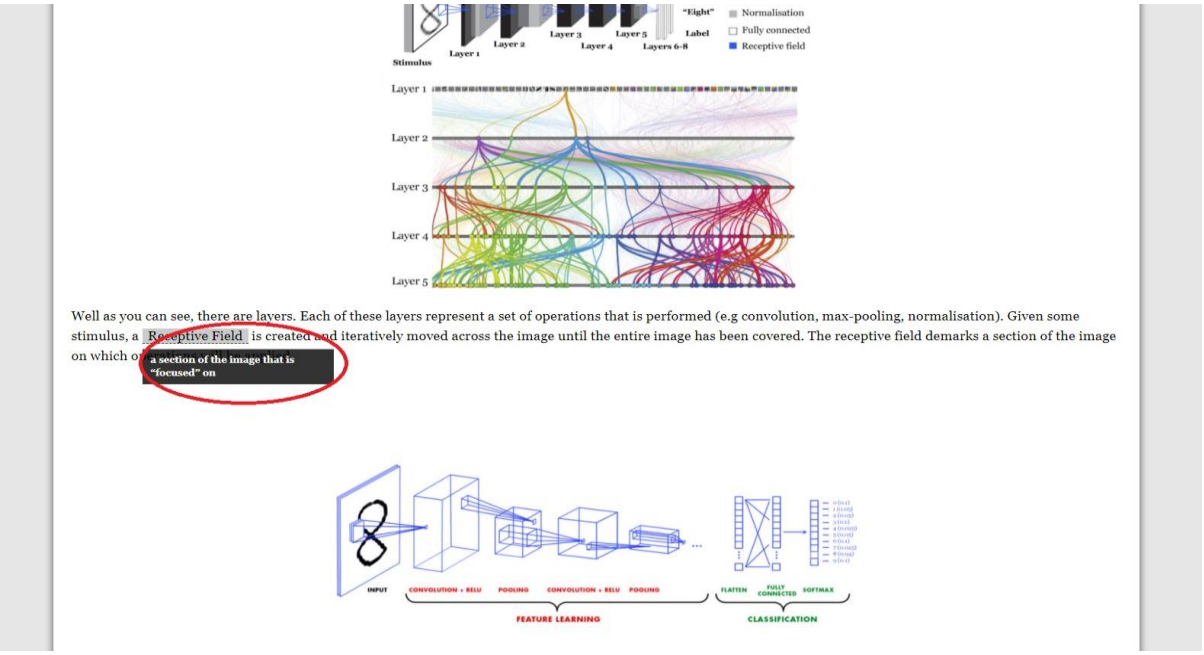
5. Clearing the Drawing

In the unlikely event that a user accidentally clicks on the submit button without drawing anything on the canvas, the system will prompt them with an alert message that there is nothing on the canvas.

6. Submitting an Empty Canvas

In the unlikely event that a user accidentally clicks on the submit button without drawing anything on the canvas, the system will prompt them with an alert message that there is nothing on the canvas.

Tooltip



As shown on the screen shot above, when a user does not understand a definition, some tooltips are given to aid their understanding on the topic.

Optional Quizzes

1. Taking the Quiz

In order for the user to be able to attempt the optional quizzes relating to the learning material, the user has to click on the optional quiz bar located at the end of every page. A panel is then toggled to open, and the user is presented with multiple-choice style questions.

2. Answering the Questions

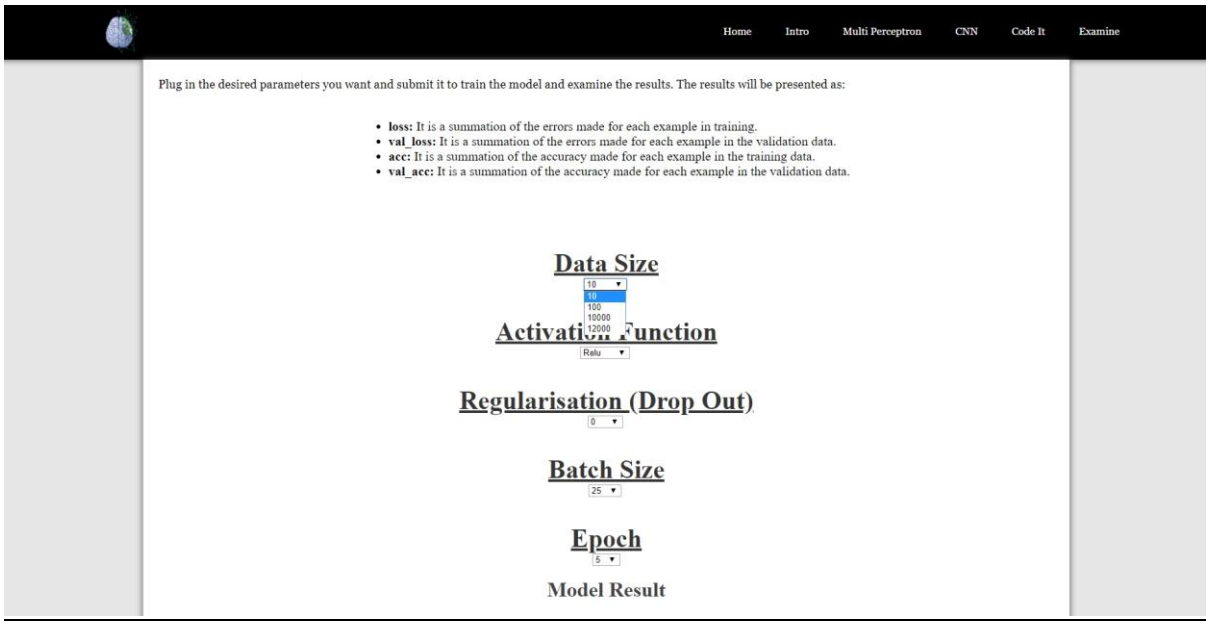
To choose an answer from the multiple-choice style questions, the user easily clicks on the left button beside the answer that they think it's correct.

3. Submitting the Answers

Once the user has finished answering the quiz, they can then submit their answers by clicking on the submit button. The user is then presented immediately with the results of their answer.

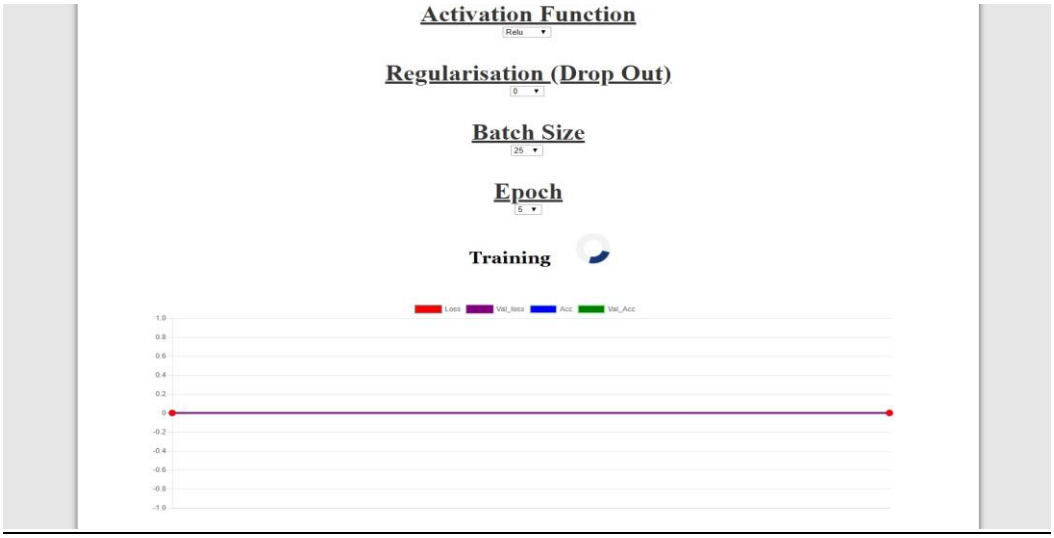
Model Examination

1. Selecting the Parameters



As shown in the screen shot above, the user has the ability to change various parameters to the neural network by pressing on the selection bar underneath each parameter's respective heading. Upon pressing the selection bar, the user is presented with a list of choices they can pick from to plug into the model.

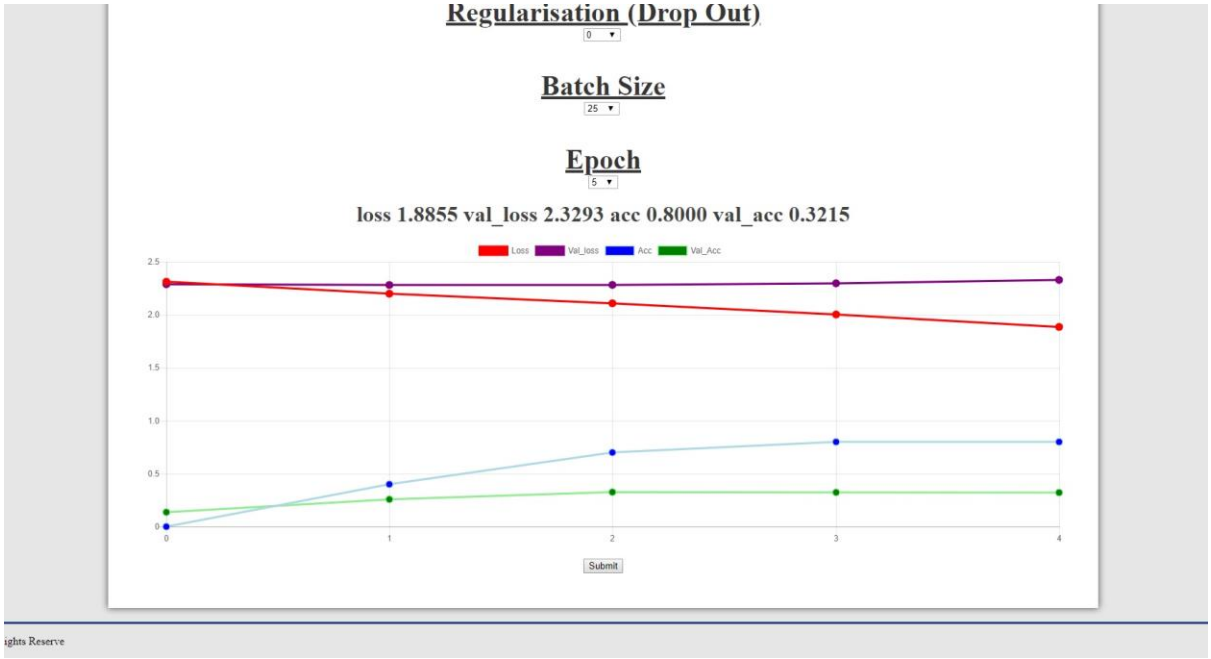
2. Submitting Chosen Parameters



Once the user finishes selecting their desired parameters, they can then submit these by clicking on the submit button located below the chart. The user must then wait for the program as it executes. During this waiting period, the user is presented with a loading bar as show in the screenshot above.

3. Presented Results

When the program has finished executing, the user is then presented with the results of the model. It shows performance metrics related to the model trained with the chosen parameters. Along with that, the progress of it is shown on the line chart as shown below.



As shown in the screenshot below, at the top of the chart there is a legend for each line indicating what they represent. In addition to this, the user has the ability to hover their cursor over any given line and view the performance metric of which it represents. Additionally, if they hover over a denoted point on a line, they can see the resulting value for the epoch that point represents.