

Date	29 October 2022
Project name	A Novel method for Handwritten digit recognition system
Team id	PNT2022TMID46193

github.com/IBM-EPBL/IBM-Project-31149-1660196845/blob/main/Project%20Development%20Phase/sprint%201/Sprint-1.ipynb

```

253, 253, 253, 253, 201, 78, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0],
[ 0, 0, 0, 0, 0, 0, 0, 0, 0, 23, 66, 213, 253, 253,
253, 253, 198, 81, 2, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0],
[ 0, 0, 0, 0, 0, 0, 0, 18, 171, 219, 253, 253, 253, 253,
195, 80, 9, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0],
[ 0, 0, 0, 0, 55, 172, 226, 253, 253, 253, 253, 244, 133,
11, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0],
[ 0, 0, 0, 0, 136, 253, 253, 253, 212, 135, 132, 16, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0],
[ 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0],
[ 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0],
[ 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0]], dtype=uint8)

```

With respect to this image, the label of this image will be stored in y_train let's see what is the label of this image by grabbing it from the y_train variable.

In [27]: `y_train[9]`

Out[27]: 4

Matplotlib is a comprehensive library for creating static, animated, and interactive visualizations in Python. By using the Matplotlib library we are displaying the number '4' in the form of an image for proper understanding.

In [26]: `import matplotlib.pyplot as plt`

milestone Activity....pdf

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github.com/IBM-EPBL/IBM-Project-31149-1660196845/blob/main/Project%20Development%20Phase/sprint%201/Sprint-1.ipynb

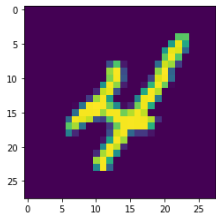
`y_train[9]`

Out[27]: 4

Matplotlib is a comprehensive library for creating static, animated, and interactive visualizations in Python. By using the Matplotlib library we are displaying the number '4' in the form of an image for proper understanding.

In [26]: `import matplotlib.pyplot as plt`
`plt.imshow(x_train[9])`

Out[26]:



4. Reshaping the Data

As we are using Deep learning neural network, the input for this network to get trained on should be of higher dimensional. Our dataset is having three-dimensional images so we have to reshape them too higher dimensions

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The screenshot shows a Jupyter Notebook titled "A novel method for hand written" on the GitHub platform. The notebook contains two sections: "4. Reshaping the Data" and "5. Applying One Hot Encoding".

4. Reshaping the Data

As we are using Deep learning neural network, the input for this network to get trained on should be of higher dimensional. Our dataset is having three-dimensional images so we have to reshape them too higher dimensions

```
In [11]: x_train=x_train.reshape(60000, 28, 28, 1).astype('float32')
x_test=x_test.reshape(10000, 28, 28, 1).astype('float32')
```

5. Applying One Hot Encoding

One hot encoding is a process by which categorical variables are converted into a form that could be provided to ML algorithms to do a better job in prediction. We apply One-Hot Encoding in order to convert the values into 0's and 1's.

```
In [12]: number_of_classes=10
y_train=np_utils.to_categorical(y_train, number_of_classes)
y_test=np_utils.to_categorical(y_test, number_of_classes)

In [13]: y_train[0]

Out[13]: array([0., 0., 0., 0., 0., 1., 0., 0., 0., 0.], dtype=float32)
```

The bottom of the screenshot shows the Windows taskbar with various application icons and the system clock displaying 04:19 on 31-10-2022.

Roadmap:

The screenshot shows the Jira Roadmap for the project "A novel method for hand written digit recognition system". The roadmap is displayed as a Gantt chart with columns for months (OCT, NOV) and specific dates.

Projects / A novel method for hand written digit recognition system

Roadmap

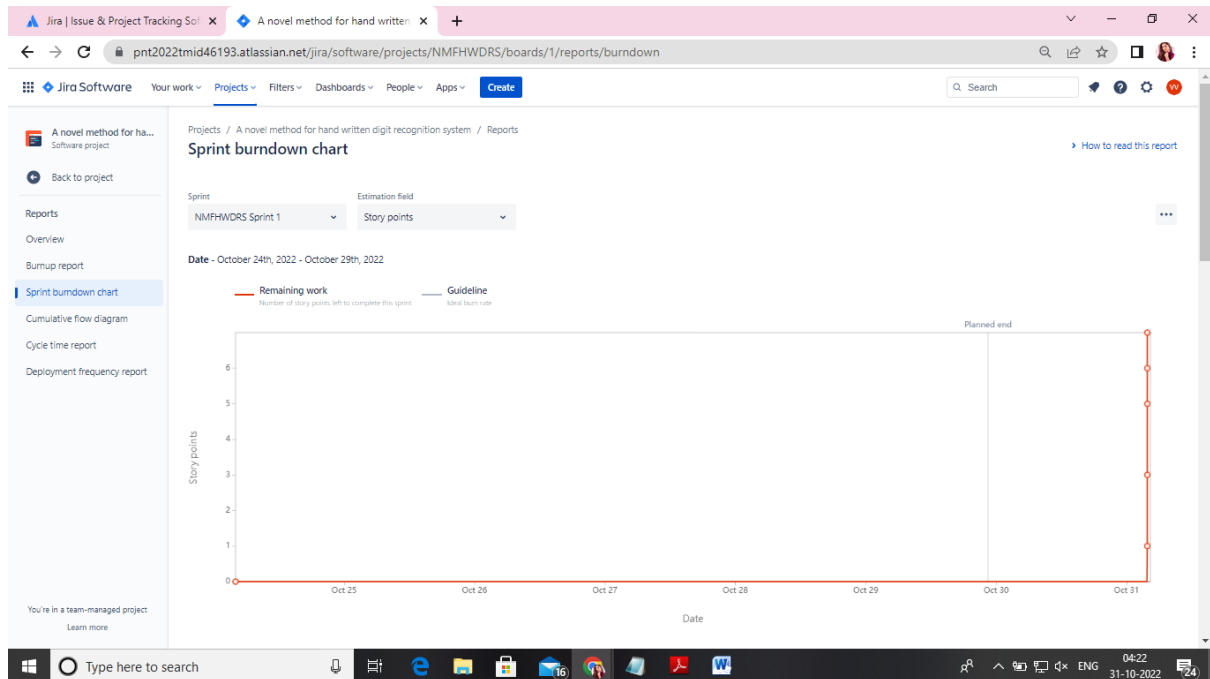
Search: [] Status category: [] View settings

Sprints	OCT 27	OCT 28	OCT 29	OCT 30	OCT 31	NOV 1	NOV 2	NOV 3	NOV 4	NOV 5	NOV 6	NOV 7	NOV 8	NOV 9	NOV 10	NOV 11	NOV 12	NOV 13	NOV 14	NOV 15	NOV 16	NOV 17	NOV 18	NOV 19	NOV 20	NOV 21	NOV 22	NOV 23	NOV 24	NOV 25	NOV 26	NOV 27	NOV 28	NOV 29
NMFHWDRS-6 Importing the required il...																																		
NMFHWDRS-7 Loading the data																																		
NMFHWDRS-8 Analyzing the data																																		
NMFHWDRS-10 Reshaping the data																																		
NMFHWDRS-11 Applying one hot enco...																																		
+ Create Epic																																		

The bottom of the screenshot shows the Windows taskbar with various application icons and the system clock displaying 04:21 on 31-10-2022.

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Sprint burndown chart:



Velocity report:

