[[1]](#footnote-1)

*Abstract*—Identification of digits in natural environments is a difficult problem … How convolution neural networks have shown promising trends … The methods followed in this work etc

Cyclops : A CNN based number recognition tool

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*Index Terms*—Convolution Neural Network, Image recognition, Image net …

# INTRODUCTION

The year 2010 marked an important development for image processing as … showed that an accuracy of … can be obtained on the…. dataset using Convolution Neural Networks. This was a landmark improvement in performance over existing ….

# Cyclops : A CNN based digit recognition tool

We use a cone neural network to predict images from the …. Using data , first get how many digits etc then classify images. Augmentation of dataset

## Filters and convolution

Fig. 1. Filters - convolution etc

## Convolution layers

## Dense layers

# Data

The data source, description of the data, some examples, number of 1 digit 2 digit 3 digit etc

## Data description

X data, y data bounding box etc. What all was changed, how the data was cropped. the transformation

## B.Data augmentation

More data was generated. How and what all transformation was used. Some examples etc.

Fig.2. Data examples

## C.Final dataset after resize

Dataset description and some image examples.

# Number tower: detect number of digits

## A.The architecture used for detection

Describe the net and its layers etc.

## B.Tuning hyper params

Why select the particular network, plots from the cross validation etc

## C.Results from the number of digit prediction

Accuracy, train time etc

# ion cannon: digit prediction

Predict individual digits after the length is predicted. Accuracies obtained etc etc

## A.The network used to detect

Describe the network layers and params

## B.Tuning hyper params

Plots why we selected the hyper params etc. Some plots to explain why we selected the plots etc.

## C.Results

Splitting, train test accuracy time etc

# Cyclops : The complete pipeline

## Image preprocessing

## Number tower prediction

## Digit prediction

## Results on validation set

# Conclusion

## A conclusion section is not required. Although a conclusion may review the main points of the paper, do not replicate the abstract as the conclusion. A conclusion might elaborate on the importance of the work or suggest applications and extensions.

Appendix

Appendixes, if needed, appear before the acknowledgment.

Acknowledgment

References

1. Author. (year, month). Title. Presented at Conference title. [Type of Medium]. Available: site/path/file
2. PROCESS Corp., MA. Intranets: Internet technologies deployed behind the firewall for corporate productivity. Presented at   
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1. [↑](#footnote-ref-1)