



Character Recognizer

Born To Understand The World

March 19 2018

Rishabh Joshi

What's The Matter?



Our eyes catch million of frames everyday and our brains process a multitude of information.

Computers were invented to outperform human beings, yet they were also born illiterate. The goal is to teach a computer the way we recognize the world.



EMNIST DATA



◆ Grayscale Image Data

◇ 28 x 28 pixels

◆ 62 Classes

◇ 0 - 9

◇ a - z

◇ A - Z

◆ Total number of images

◇ 814,255

◆ Training Images

◇ 697,932

◆ Test Images

◇ 116,323



SIMPLE NNET

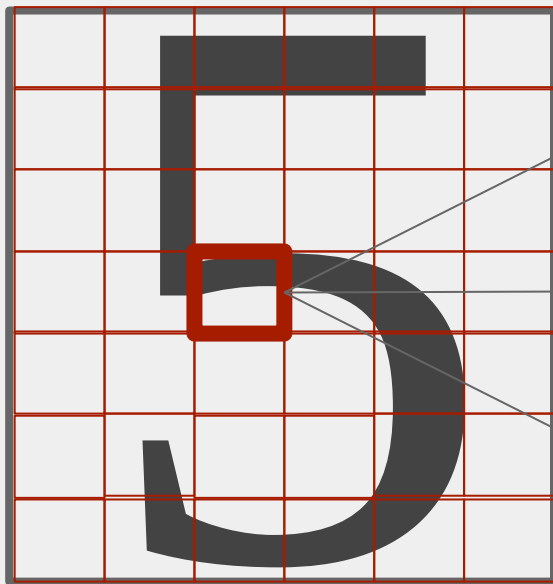
15.84%

ACCURACY

CONV NET

88.39%

Insight



MAX



Poor



MEAN



Better



CONDITIONAL MEAN



Best

Thanks!

Any questions?

You can find me at:

[linkedin.com/in/rishabh-joshi](https://www.linkedin.com/in/rishabh-joshi)

github.com/rishabh-joshi

rishabh@u.northwestern.edu