Summarizing news articles

7 June 2017

1 Decisions made

We have decided to use tensorflow instead of torch to implement deep learning due to its easinesss since it handles them very well, and extension of code to GPUs is quite minimal And the speed ups are tremendous, in our mentor's experience.

2 Things learnt

2.1 Linux

Getting acquainted with ubuntu and terminal

2.2 Python

All of the team members according to their pre proficiency in python spent time learning numpy. One of the sources used was `http://cs231n.github.io/python-numpy-tutorial`

2.3 Machine Learning

Did CS229,An introduction to machine learning by Andrew Ng from Coursera till Neural Nets.

- Supervised learning (parametric/non-parametric algorithms, support vector machines, kernels, neural networks)

- Best practices in machine learning (bias/variance theory; innovation process in machine learning and AI)

- Linear regression,Logistic Regression

- Gradient descent,Stochastic Gradient Descent

2.4   Deep Learning

Udacity course on Deep Learning

- Deep Neural Networks

- Convolutional Neural Networks

- Deep Models for text and sequences

2.5   First task

1. Download MNIST dataset

2. Create a dataset of 100,000 images using Numpy where there is a presence of 2 digits in the same image(i.e. 100 labels)

3. Tag the dataset while creating it. If the image contains a number 3,4 then mark it as 34. Note this would be as to which number is left to what number in the image.

4. The size of the images have to 64x64.

5. Train a 5 layer convolutional network using this dataset and report accuracy. Use tensorflow and GPUs.The data should be completely random and the task should be completely automated.

Link to the task implemented

`https://github.com/hunarpreet1/cnn`

2.6   Current work

A paper on GAN (by the guy who came up with them) and a book on information retrieval using NLP techniques. We have to go through the entire paper. From the book through Chapter 1, 2, 6, 7, 11, 12

GAN_ian_goodfellow.pdf
irbook_manning.pdf

Well tabulated results by everyone Of image classification Using 3 kinds of networks:

1. 2 hidden layers, Low epochs

2. 3 hidden layers, high epochs

3. Linear models, high epochs

`https://arxiv.org/pdf/1701.06547.pdf`
A paper On neural text generation, using Adversarial models