

SOC

Image captioning using attention Mechanism Week 1

Hello guys hope you all are excited for learning some ML. This course assumes that you have undertaken introductory course AI/DS prior. But don't worry if not you will just need to hang in there and and put some extra effort. This SOC will act as a introduction for two fields in ML, computer vision and NLP, so embrace yourself for the journey!

This week we are going to learn/revise some basics and get you all introduced to Pytorch and also doing a small project as assignment. The final project is going to be implemented in pytorch so familiarity with it is important. Just go through resources thoroughly and if in doubt feel free to reachout to us!

Resources:

Numpy, Pandas and Data visualisation basics:

Numpy: <https://www.youtube.com/watch?v=pJoYVxgl840>

Pandas: <https://www.kaggle.com/learn/pandas>

Data visualization:

<https://www.kaggle.com/learn/data-visualization>

ML revision:

https://www.youtube.com/watch?v=i_LwzRVP7bg

Pytorch see up to lecture 13 for this week:

<https://www.youtube.com/watch?v=EMXfZB8FVUA&list=PLqnsIRFeH2UrcDBWand wF5mfPGpqQDSta6VK4>

Assignment:

You have to create a basic feed forward neural network to predict hand written digits of MNIST handwritten digit classifier. Do test-validation-train split. And try different hyper parameter like depth, width and regularisation parameter etc to check what effect it has on accuracy of validation set. Select the best model and document your understanding of what kind of hyper parameter tweaking made you arrive at the given decision.

Upload your ipynb file on google drive folder named as SOC, this will help you store your projects for longer time, in case you need to look back at them for resume purposes ;) and share with Abhishek there link with view access.

Have fun!

Link to dataset download:

<https://www.kaggle.com/datasets/hojjatk/mnist-dataset>

Optional:

You can take up Andrew Ng Coursera Machine learning and Deep learning specialisation courses(do them in given order). No need to pay just apply for financial aid. You can complete this courses as we complete SOC.