Week 3

Course

- Complete the following topics of this lecture for the first lecture series: https://www.coursera.org/learn/machine-learning
    - Week 3 : Logistic Regression
    - Week 3 : Regularization
- https://github.com/ZakiaSalod/The-Hundred-Page-Machine-Learning-Book/blob/master/Chapter5.pdf (Regularization from The Hundred Page Machine Learning Book)
- https://github.com/ZakiaSalod/The-Hundred-Page-Machine-Learning-Book/blob/master/Chapter3.pdf (Linear and Logistic Regression)

Suggested Blogs

Linear Regression with Multiple Variables:

- https://medium.com/@gowthamy/machine-learning-supervised-learning-vs-unsupervised-learning-f1658e12a780 (for supervised vs unsupervised learning).
- https://fr.coursera.org/lecture/data-analysis-with-python/linear-regression-and-multiple-linear-regression-Wlyce
- https://medium.com/coinmonks/linear-regression-bf5141ce9ac8
- http://www.holehouse.org/mlclass/04_Linear_Regression_with_multiple_variables.html

Logistic Regression:

- https://towardsdatascience.com/logistic-regression-detailed-overview-46c4da4303bc
- https://towardsdatascience.com/logistic-regression-explained-9ee73cede081
- https://towardsdatascience.com/logistic-regression-b0af09cdb8ad
- http://thegrandjanitor.com/2015/08/20/gradient-descent-for-logistic-regression/ (To better understand gradient descent in logistic regression).
- https://stackoverflow.com/questions/12146914/what-is-the-difference-between-linear-regression-and-logistic-regression (how linear and logistic regression differ).
  Watch:
- https://www.youtube.com/watch?v=yIYKR4sgzI8
- https://www.youtube.com/watch?v=zAULhNrnuL4

Regularization:

- https://towardsdatascience.com/regularization-an-important-concept-in-machine-learning-5891628907ea
- https://qr.ae/pNr2vg (check the answer by Prasoon Goyal, it will help with the basics).
- https://ml-cheatsheet.readthedocs.io/en/latest/regularization.html

- https://www.analyticsvidhya.com/blog/2018/04/fundamentals-deep-learning-regularization-techniques/
  Watch:
- https://youtu.be/Q81RR3yKn30
- https://youtu.be/NGf0voTMlcs (A **regression** model that uses **L1 regularization** technique is called **Lasso Regression** and model which uses **L2** is called **Ridge Regression**.)

Decision Boundary:

- https://towardsdatascience.com/logistic-regression-and-decision-boundary-eab6e00c1e8
- https://towardsdatascience.com/decision-boundary-visualization-a-z-6a63ae9cca7d

Tensorflow

After completing the above course, go through these blogs to have some introduction in Tensorflow:

- https://medium.com/analytics-vidhya/series-learning-tensorflow-the-easy-way-dcc5be834d74
- https://medium.com/analytics-vidhya/getting-started-with-tensorflow-the-easy-way-part-2-30e83830bd25
- https://medium.com/analytics-vidhya/getting-started-with-tensorflow-the-easy-way-part-3-9714a09af723
- https://www.guru99.com/tensor-tensorflow.html

Advanced Topics

- https://www.youtube.com/watch?v=HZ4cvaztQEs&feature=youtu.be
- http://cs229.stanford.edu/notes-spring2019/cs229-notes1.pdf
- http://cs229.stanford.edu/notes-spring2019/Gradient_Descent_Viz.pdf