Assignment 0

Instructions (Please read fully before proceeding)

This preparatory assignment 0 is intended to help you prepare for this course, and consists of two parts: (i) a theoretical part to help you test your basics in mathematical foundations and machine learning, which would help you follow this course better, and (ii) a programming part to help you test your background in Python and useful libraries in Python such as NumPy.

Theory: Please see attached PDF (below) for questions and solutions. Try working out the questions, without seeing the solutions, for your own benefit.

Programming: A ZIP file is provided below with Jupyter/IPython notebooks, one with questions and another with solutions. For running the assignment on your local PC, you’ll have to install Jupyter/IPython Notebook along with some commonly used python libraries (you can use anaconda for these). You can then use the attached IPython notebooks for your work. Please use the links below to get started with setting up the environment locally and running Jupyter notebooks.


Alternatively, you can use Google Colab with your personal Google account. The link below can help in getting started with Google Colab:

Get Started with Google Colab for Machine Learning and Deep Learning: [https://www.analyticsvidhya.com/blog/2020/03/google-colab-machine-learning-deep-learning/](https://www.analyticsvidhya.com/blog/2020/03/google-colab-machine-learning-deep-learning/)

Programming: Click here to download the required Programming Assignment 0 iPython notebooks.

Theory: See PDF below.

Deep Learning for Computer Vision

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ASSIGNMENT 0

This is a preparatory assignment for the course on “Deep Learning for Computer Vision”. Below are questions on basics/pre-requisites for this course. If you can answer these, you are ready for the course.

1 Functions and Derivatives
1.1 Simple derivatives

Questions: Find the derivative of (sin x + x^2 + √x).

Solutions: