50.021 -AI

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Week 04: Tensorflow

[The following notes are compiled from various sources such as textbooks, lecture materials, Web resources and are shared for academic purposes only, intended for use by students registered for a specific course. In the interest of brevity, every source is not cited. The compiler of these notes gratefully acknowledges all such sources.]

In this class

- Tensor and Operation

- placeholder and feed dicts to put data into tensorflow from python

- Variables: their use for checkpointing (`https://jon-wong-sutd.github.io/ai-course-material/tensorflow/variables/`), and

in class coding:

1. implement using `feed_dict` and placeholders a function that computes a polynomial

$$f(x,y) = x^3y^2 - 7x^2y + x - 12$$

fetch its outputs for x in a range $[-1,1]$, plot them (you can do the plotting outside of tensorflow, matplotlib?)

2. we had a fake dataset which computes gaussian random variables, create 2 datasets which generate cauchy-distributed random variables and gamma distributed random variables (scipy? tf? your choice), use `feed_dict` and placeholders to compute the variance and the kurtosis.