How to fit Gaussian Distributions using Matlab – Kenneth So

1. These instructions assume you’ve already binned the data. If you haven’t, go run the ‘Bin’ program on your imported data.
2. I created a program called Gaussian. Open that in Matlab.
3. Here’s what the variables mean:
   1. x = 0:.1:35 means create a set of points from 0 to 35 at .1 intervals. You should look at your binned graph and see where the beginning and end of the graph are. Then change 0 and 35 accordingly.
   2. mu = 22 means the Mean of the fitted graph is 22. Look for the center of your binned graph and estimate where the center is, and then change mu accordingly.
   3. sigma = 5 means the Standard Deviation of the fitted graph is 5. Guess what the standard deviation is, and adjust accordingly
   4. strech = 350 means the original Gaussian curve will be multiplied by 350 to achieve the height the graph needs. Remember that all of the points in an original bell curve are probabilities, and thus the peak of the original graph will be .08 or something close to that. Adjust vertical stretch accordingly.
4. Remember that all of these values must be adjusted within the program for this to work! Basically x is range, mu is center, sigma is standard dev., and strech is height. You should be able to estimate all of them and put in values accordingly before running the program for the first time, except strech, that’s sort of hit or miss.
5. Rinse and repeat. Run the program, change values in the program, run the program again, until you get what looks like a good fit.