Over the weekend I finished and tested out the circuit optimizer that can save and load circuits. It turns out it runs slightly slower because of all the stuff it has to write to the file and it still runs out of memory. I guess just the number of circuits that exist at 8 nor gates is too much to hold at one time.

I started today by writing some code for Jing. Unfortunately, the gene annotation file she gave me only has the nucleotide range for the actual coding region not the full transcribed region. In hopes that it would be a simple modification if we were to adjust the gene annotation file for the correct start nucleotide, I wrote several methods.

First I fixed the getReads() method which takes in a full genome as a string and a wig file and returns a dictionary of nucleotides numbers mapped to their score and their nucleotide letter.

Next I made a method, makeDictFromMochi(), that takes in the gene annotation and creates a dictionary of gene’s mapped to their properties. Then I made a method, updateDictWithCountAndSeq(), that takes in the dictionary and a dictionary produced by makeDictFromMochi(), and a sign telling whether we should look at + genes or – genes. Then it would add to the gene dictionary the sequence for the genes and the score, and a list of scores that represent the score at each nucleotide.

I made a wrapper function that combines everything into one step.

Jing pointed out that MochiView could not open the wig files we were examining, so I made a method, remakewig(), that takes in a wig file and reformats it so it can be used for MochiView. The problem was that it didn’t have the correct header, and the nucleotides with 0 reads were omitted. So we had to use remakewig() to add the corrected header and the missing nucleotides.

I took some time to thoroughly comment the code so Jing could understand it when I sent it to her.

There was an error in the remakewig() function that I fixed. I also made minor adjustments to other functions to make them more readable.

I started to look at Alex’s zombie apocalypse program in hopes that it will allow me to understand how odeint works.