

Journal of Krishna Chaithanya Palavarapu for Winter 2008

03/17/2008

1 Week 1: January 16

After the Winter break I am back to work on SETS project. The ideas we worked on in the last quarter didn't work as they are not useful. Dr. Martin told us a new idea to work and gave me some code to understand that how is it useful for our idea implementation. I am still working on it for now.

2 Week 2: January 23

The idea is to generate a target point of rank 3 with the linear combination of the three basepoints and generate another guess point of rank 2 randomly and calculate the distance between them. Using Alternating Least Squares Algorithm we going to minimize the distance between them. I am now working on the code to implement the Vector Inner Product subroutine. Next week I may be able to come up with the code.

3 Week 3: January 30

This week I worked on implementing the code and finished with it. It does compile and runs well. I tested my code with rank 1 vectors and it worked fine. I tried to work with rank 2 vectors , but for rank 2 vectors the error is increasing instead of decreasing. I have to talk with Dr. Martin about this and for next week I will come up with pictures.

4 Week 4: February 6

Last week I mentioned that the error is increasing, I have talked to Dr. Martin and fixed that. Now the code works fine. I got some pictures. I prepared for the presentation. Next week I will come with Pictures that cover the whole plane with Guess points.

5 Week 5: February 13

I have made pictures that cover the whole plane. I took a_1 and a_2 , the coefficients, with a step size of 0.01 and 0.01 initially, then I have tried to plot pictures by changing the step size for a_1 and a_2 . I also have generated some pictures with $maxiter = 20$ with step size for a_1 and a_2 as 0.001, we got most of the points black for this one. I approximated multiple *Guesspoints* for every *Targetpoint* and generated a picture of that. Next week I am going to plot pictures with random basepoints of rank one, rank two and I am going to take $maxiter = 100$ for multiple guess points for each target point.

6 Week 6: February 20

This week I have generated pictures in which I have approximated *Guess* points with *Target* points with random rank one basepoints and random rank two basepoints. In those pictures we have observed that we are getting black colored points in some areas, but in some areas we are getting colored points. So we decided to take a (x, y) point in the area where we are getting only colored points and convert it into the B point. Then we are going to approximate the B point with some rank two guess points and want to check what color they going to be. I am currently working on this. This is my goal for next week.

7 Week 7: February 27

This week I have modified the code for converting the point (x, y) to the point on the plane. I have written code for saving the *xytlist* of the previous execution of the program and loading for the current execution of the program, this makes to retrieve the points we have plotted previously. I have written code for plotting

points in boxes, this is useful for checking which color the points are being plotted in selected area. Finally I prepared for the presentation.

8 Week 8: March 5

This week I tried to get some more pictures which contains boxes that cover the three basepoints, but I didn't get pictures exactly what we are looking for. So I am working on that and I am working in modifying the *makepsplot* routine. I also started working on report for the winter quarter.

9 Week 9: March 12

This week I have modified the *makePSplot* routine to change the left bottom side corner as we wish. I generated some more pictures of square boxes and saved the points. I used those points and plotted some more points in some area where I didn't get black points. I am trying to get more pictures of them. I am also working on my report.