Date: 07/12/2019

Short Term Scholar Weekly Progress Report

This report contains information about my weekly progress here on National Center of Computational Hydroscience Engineering. This is the first of eight reports I will be filling during my stay.

This week started with a briefing with Dr. Ramalingam. The discussion we made included the topics I will study and the applications I will develop during my training. We concluded that for the first month of my visiting I need effort to learn the libraries that has been used for many projects. This library is named ‘GDAL’ and it is originally written in C/C++ programming language. For a reading material I have given ‘Geo-processing with Python’ by Chris Garrad. This material is the main one that I will be benefiting and I have assigned to finish it. Additionally I have also given ‘Python Essential Reference’ by David M. Beazley. This book covers advanced topics of Python such as networking and memory management. For the first week I did not take the advantage of this book since my major material also covers the basics of Python. After the briefing I studied the given material. In the first day I finished the fist chapter and learned information about how the world is mapped and how projections are working. This information is highly important.

In my third day I have continued with my readings on the given material. I have finished the Chapter 2 and started Chapter 3 which has a scope of, basics of Python and basics of GDAL. During this period I apprehended an understanding about GDAL and connected this information to what I learned about mapping and projections. Also I have searched the internet about robot localization. I have learned the possible applications of certain libraries such as ROS (Robot Operating System).

In my third day I have finished working on Chapter 3 and started the next one. The other chapters which focuses on usage of OGR and is a part of GDAL to read data from a file. After I have learned the usage of the library I have demonstrated my knowledge by building a data set and a basic application. This application aimed to guess a place of a client based on the 24 hour activity stored as a set of locations and time information attached to them. After I built the application I showed it to Dr. Altınakar and Dr. Ramalingam. I also spend my time on doing research about Android applications. The purpose of this is to build an application for my phone to collect all kinds scalar and spatial data that my phone provided and store them to make use of them in my later projects. I started coding this application using the most common IDE, Android Studio. During my development and research I learned about Android Services.

In my fourth day, I went to the Human Resources of University of Mississippi to fill certain documents. Later, I have spent my time on investigating further on my material. I finished Chapter 4. This chapter contained information that is hard to memorize. I have learn the usage of file writing in this chapter. After that I started Chapter 5. However I did not finished it. Further, I think of some applications I can accomplish with the knowledge I equipped. I have founded some ideas, therefore I decided to make a schedule to develop them. I used Trello to keep my list of jobs organized.

In the last day of my first week, I started the work by having a visit to the National Sedimentation Laboratory. This was a stimulating experience for me. I grasped an understanding for how farming practices effects soil. After that, I came to the South Oxford Building to finish Chapter 5. When I have finished I understand how OGR works in a general sense. After that I have started to write my Weekly Progress Report.