

## Travel Report: PEARC 18

On July 22<sup>nd</sup>, 2018, The Elizabeth City State University Coding Institute students left to go to Pittsburg Pennsylvania. Everyone was dressed in casual clothing to enjoy comfort while riding for 8 and a half hours. We made two stops for lunch, gas, and a bathroom break. Some people were sleeping, while some people were awake helping the driver stay focus and go the correct route. When getting closer to the city, the driver went in a big circle two times due to confusion of the GPS. However, we did make it and started off the night by having a welcome session for the students. Mrs. Pirtle, who works for the FBI, gave us a wonderful seminar about what it is like working for the FBI. I have learned that the FBI is here to protect Americans and educate the community. The FBI core values shows how committed we people are to work for them. Core values such as being honest is an important factor because that shows you have good character. For example, one of the steps in working for the FBI is to take a polygraph test and you must tell the truth. If you fail the polygraph test, you have already failed in being hired for the job because of a lacking a core value. If learned that it is possible to go overseas if needed, this gives people the opportunity to travel if they are a travel person. A big section in working with the FBI is Cyber Security. This is major because we are trying to protect people from having criminals steal information. The FBI has so many sections in their office that you can do almost anything and can switch positions if wanted. Mrs. Pirtle told us that it is important to ask a company, "What is your mission?". Understand what the company is trying to accomplish and how can we help. The FBI is offering an honors internship positions for students who are interested in working for them. She gave us an example of how you never know who you will work for and where you will be. Mrs. Pirtle worked during the Boston marathon bombing that occurred in 2013. She has given us so much information that I am able to use throughout the rest of my life, to help myself and others. Another speaker named Mike Becich spoke about working with Pathology. He explained that he cannot code but have people to help him in that aspect. He stated, *"I have failed a lot, but now I am in the industry"*. *This is a quote that will stick with me because it teaches me to not give up on anything.* After his speech, a lot of students ventured out to go downtown. I met students Alexa and David who are from Virginia Tech University and Temilola from FAMU. It was so unique to see the different universities interacting together in one city.

The next day, I woke up and attended breakfast that was made from the hotel. I sat with people that I knew, and new people came to join us. One of the individuals, I met the night before and we had a lot of information in common. Our parents were from the same place and we are the babies in our family. I was so confused about when to volunteer and when to participate in the sessions. I received some guidance when I looked at the schedule and talked to more people about where to go. The next day, I woke up and attended breakfast that was made from the hotel. I sat with people that I knew, and new people came to join us. One of the individuals, I met the night before and we had a lot of information in common. Our parents were from the same place and we are the babies in our family. I was so confused about when to volunteer and when to participate in the sessions. I received some guidance when I looked at the schedule and talked to more people about where to go. I attended a session called Python 3, that involved learning the basics of Python. We took a thirty-minute break which consisted of granola bars and coffee. The next session was a session called "I Learned Python: What Now?". This session taught us that we can create graphs using python, which was interesting to me because I never knew that. I thought only R allowed programmers to graph because that was how I recently learned how to graph in programming. Afterwards, there was a second break that

consisted of cookies and coffee. Our final event for the night was a Student and Mentor dinner. I met my mentor, Ben Nickell and one of the members of the program had him as well last year. I enjoyed having dinner with my mentor and understanding where he is from and his lifestyle. He loves the mountains, has 5 children, lives in Idaho and worked as the IT Helper at a university in Idaho. I have learned that he created some systems before the universal “Banner System” came out. This was something that I have a huge interest in, learning the back end of the computer instead of being on the front end. The dinner that night was grilled chicken breast with carrots, asparagus, peppers and rice with yellow gravy.

On Tuesday, breakfast started off with bagels, eggs and coffee. I was a little frustrated when it came to certain sessions because we are told so many things. I was supposed to have a volunteer session from 1:30 to 5, however, I had to attend a Student Modeling Challenge. I enjoyed the Student Modeling Challenge because it taught me to interact in a group. Normally, I do not like working in a group because I am always left doing the work. When working in this group, we all assigned each other with a task and made sure it was complete. I had the task of making sure the PowerPoint was completed and filled with information. We did a mock presentation as if we had information on our slides to prepare for our actual presentation. A quote that was stated after our presentation was, *“If we had more time and more money”*. This is a sign to many scientists who could be looking at your presentation and willing to help you. This quote was from Brad Burkman, a high school math teacher in Louisiana. Afterwards, I had a break to go around Pittsburg to go site-seeing. I bought a slice of pizza from Mamma Lucia’s and I also bought some hats for my family. After site-seeing, there was a poster session that involved posters from grad students, undergraduate students and a few high school students. My favorite presentation would have to be a presentation about tweets. This presentation was called “Using Jetstream to Enable Large-Scale Text Analysis”. The presenters took tweets from Donald Trump to see which ones filtered from negative tweets to positive tweets. He explained if you hear something like “I HATE EVERYONE”, this of course is a negative tweet. A tweet saying, “I LOVE EVERYONE”, will be a positive tweet because there is no hatred towards anything. The presenter, Harrison, was from Kennesaw State University and his partner was from New Mexico State University. Temilola created a project based on “Investigating Florida Housing Prices using Predictive Time Series Model. He gave us information on the data that was collected by using a function that produces predictions on the outcome of the data. I was introduced to a man name Eduardo, who works at the University of Virginia. He gave me a lot of information about how I could apply to University of Virginia and have tour around their campus for many opportunities. This is not to transfer schools but for an opportunity to go to graduate school or to go a possible job opportunity at the university. This poster session would have to be my most interesting session because I could experience the different research that people have displayed. Learning about the next studies that people have worked on and are teaching me.

On Wednesday, the team served us sausage, egg and cheese biscuits with a variety of Danishes. I sat with a girl that I met on the first day and caught up with her. I met a man name Cesar from California, he works in Los Angeles as a staff member, doing research and IT. He told me about his daughter and he is about to get married soon. I explained to him that I wasn’t feeling home sick, but I was when I was in band camp in 9<sup>th</sup> grade. After breakfast, I had a snack with trail mix and strawberries. For lunch, I had to meet with my mentor for the student mentor lunch. We had chicken wraps, spinach, strawberries, raspberries and unique desserts. My mentor and I discussed more about what he enjoys and what my interests are. He invited me to join his laboratory in Idaho for a summer intern that will start next summer. He told me to apply

by February to get a spot in the intern's position. There was a speaker, Greg Farber, from National Institute of Health (NIH) discussing the tasks that occurs in their office. If someone had a rare disease or condition, the work would go to the NIH. There are some internship positions for students to be involved in that will get them future in their careers. Once lunch was over, we took a student volunteer picture and a picture of the Coding Institute students. After pictures, I went to my room to work on the PowerPoint for the Student Modeling Challenge that occurred. There was a little bit of frustration with some group members due to not practicing and not having enough time to discuss who says what. Our group presented our PowerPoint and the audience enjoyed what we had to offer in a little amount of time. We walked throughout the city to get dinner for the night and there was a lot of events going on.

Also, on Wednesday, we attended the Science Gateways and You conference and listened to speakers discuss how they feel about Science Gateways. Nancy Diehr led the conference by asking "What is your definition of gateway?". Responses were, "Place to go that gets you everything else, pull workflow, solution, ties data, compute and know how. Simply a cloud". The next question was "What were the circumstances that st led to consider develop gateway? What were your goals?". Responses included, "Creating and sharing platforms, making it easy to build these systems. One man, "A course taught in two weeks, trying to contribute students to get into research. The next question, "In what ways has your gateway met those initial expectations? iN what ways not?" Responses, "Web content is great, the hard part is the back end. Making professors happy, hard task has only one developer. Challenge prototype individual components made easy interface". Next question, "Tell us about your interaction with SGCI/ECSS. In what ways has this changed your approach?". Responses, "Support from entire team, positive interactions, API being exposed and developing projects. Team support, first given name, face and identification to phenomenon". Next question, "How do you measure the success of your gateway?". Responses, "Success not captured by google analytic. Using software in classes, more grad students doing research. Getting users up in the starting phase". The last question was, "What advice do you have for others thinking about developing a gateway?", responses, "Ask for help, working with leaders, Know your users". *Be patient, things take longer than you think. Things will not always come when you want them to, so you must take time to get to where you want to be. This quote was from Tom during the Science Gateway and You conference.*

On Thursday, students prepared for the hackathon by filling out which activity they would like to work on first. I chose MyGeoHub, COSMIC squared, and SIMCSS. I was able to work on my first choice that I wanted and met our mentor. Our mentor was Rajesh Kalyanam created the MyGeoHub project and guided us through the steps. In the beginning of our process, my team came up with the idea of what our purpose was. We wanted to inform people about weather events that were occurring. We want to let people know what is going on in schools, events and rerouting. For schools, we want to inform students that they should call their parents if there is a severe storm. For events, we want to inform people if the event is canceled. For rerouting, we want to inform people about what street the storm is on. When we presented our idea, we found out we were taking a huge idea in so little time, we needed to condense it. We decided to take the tweets from Atlanta and find out the popular hashtags. With the information that was given to us, we used XML to parse and extract the prod\_type data, which gave us conditions such as; Flood Warning, Severe Thunderstorm, Heat Advisory, etc. With this information, we drew a rectangle on the affected areas to figure out the weather conditions. We imported and downloaded NLTK, Natural Language ToolKit. This allows us to tokenize a string.

Tokenize means to separate every word used in that string. For example, the phrase, "Storm in Atlanta" turns into "Storm", "in", "Atlanta". We imported tweepy which allowed us to filter the information. We used myStream.filter, which points out specific tweets with keywords that they will like to know about. We used hashtag dictionaries and when running hashtag\_dict() this gives you the list and count of all hashtags currently used. Running "for key in hashtag", this sends the data to a new hashtag file. When running word cloud, this takes the words from the hashtag file and stores the data in the cloud. The bigger words mean they are used the most throughout tweets. For example, "cloudy" could be the smallest word, while "Thunder" could be the biggest word. This means Thunder is the most popular used word throughout Twitter.

Everyone was so tired, we took breaks, created a handshake and explained our first slide. I stayed up for a whole 24 hours and once 6:30 hit, I went to sleep for about 3 hours, woke up refreshed and ready to go! There were some ideas that we did not get to incorporate such as actually showing our word cloud. With limited time, we were able to pull off a good-looking project. I wish we were able to practice our presentation because I felt like I was hesitant when explaining information. After we presented, we were getting prepared for the awards to see who won what award. During the dinner, we found out that we won the People's Choice Award! I instantly remembered the People's Choice Award that was on Nickelodeon. I felt good that people voted for our project and they enjoyed our creation. I was excited to share this information with my family and friends. People telling me, "I voted for you! Congrats! I hope you got it!". After the awards, it was time to go to sleep to prepare for departure the next day! We left Saturday at 5:15am and made about 3 stops at the rest area, for breakfast and for lunch. We made it back to Elizabeth City around 4:00 and we were happy to be back! I am so happy that I had this experience of going away with new people and going through the same journeys together.