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Final Reflection GFF 2021

This summer, I attended the North Carolina School of Science and Mathematics (NCSSM) program with the support of the “Garwin Family Foundation”. Due to Covid-19 restrictions, the program was held online through the “Canvas” system which is like Google Classroom which most students use. The course I took was called “Introduction to Machine Learning with Programming” and it was 3 weeks long. It focused on understanding machine learning based on the Python language, which is basically a branch of AI learning based on the idea that systems can fully function through coding.

Inside the “Classroom”

This was my first time taking an online summer class, outside of school. So, I was looking forward to this experience to see what kinds of layouts and programs NCSSM would use.

During the first week of the course, I was very confused about the layout of the program honestly. The Canvas website had so many options and places to go that sometimes during the first week I missed a few stuffs and had to catch up on learning the basics. However, I had previously taken a Python course, so it wasn't that detrimental. First, we had to do a small class discussion where we needed to find a machine learning article and analyze it. The first week was simple in terms of content-wise as my instructor, Keethan Kleiner, just posted short assignments for us to do related to learning the basics of Python. We had to follow videos that taught us the content through another platform called “Udacity”.

Then came the second week, but this time I had a much better grasp of how the website and program layout was, making it easier to navigate and learn. Also, the content difficulty went up a bit and I learned a lot more things, starting with the overall programming language. I learned many more new terminologies used, such as zip, enumerate, and lambda. Zip returns an iterator that combines multiple objects into one sequence of tuples (which is a sequence). Enumerate is a built-in function in Python that returns an iterator of tuples containing values of a list. Finally, the lambda operator helps the user to create anonymous functions of their own. I've also learned more about documentation, which I hadn't heard of before. Documentation is used to make code easier to understand and use. Functions are a lot easier to read from this because they often use documentation strings, known as docstrings. Docstrings are a type of comment used to explain the purpose of a function. All these things were interesting and broadened my knowledge of Python.

Finally, arrived the last week of the program. This was the week where I finally got to meet some of my classmates and my instructor in real time. The previous two weeks were asynchronous, but this week was live during zoom meetings from 8-11 am every day. The content this week was much more rigorous and hands on. We as a class (16 students) got to first learn how to read in and sort files, and then we got to learn how to create a tic-tac-toe game all from Python. This week was my favorite since I got to interact with my peers and got to learn the most fun things which I could have never learned if I hadn't taken this course.

Extracurriculars

Outside of the classroom, NCSSM also had a lot of different activities available for us every day. They were either during 12-1 pm, or 4-5 pm every day. It consisted of hands-on games such as Kahoot, Jeopardy, and even Pictionary where we could meet other students and just get to know the program better. I attended a few of these activities and had a lot of fun, I met many new people and had a great time.

Overall NCSSM was a great experience for me, and I learned many things about machine learning with programming through Python. I'm so thankful for my instructor for teaching me those things, and I'm also thankful for the Garwin Family Foundation for providing me with this opportunity to learn again through this amazing experience!