

Shoes Identifying Foot Problems

The Unfortunate Relationship between African Americans and Cancer

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On my honor as a University Student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments

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STS Sociotechnical Synthesis

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This portfolio includes two projects, a technical capstone project and an STS research project. My capstone project focused on designing and creating the shoe-sole sensor and was conducted by a total of four other undergraduates. My STS research project centered on the research question of: What diagnostic measures can be taken to reduce cancer disparities for African Americans? The relationship that these two projects serve was that the shoe-sole sensor purpose idea stemmed from creating a diagnostic tool for gait disorders and to prevent foot ulcers. The purpose of my STS Research was to be able to diagnose the cancer disparity among African Americans and come up with ways to reduce the cancer disparity.

My Capstone group project consisted of a total of 5 undergraduates, including me. My group and I came up with this project because we were all interested in sports and wanted to design something that would help people who consistently play sports be able to avoid long-term foot problems in the future. This project took about 4 months to complete starting from September 2021 to December 2021. During this process, my group met with our professor every week to update him about our progress on the project. My role in this project was to design the physical case via Autodesk Inventor, which will have all our hardware components inside of it, and 3D print the design. In the end, my group was able to make a finished project where there was a case, that I created, that gets attached around one's ankle using a strap, along with a shoe sole with a couple of sensors around the main parts of the sole.

My Research project consisted of just me working on it, which was about understanding the relationship between African Americans and cancer disparities. This project took about three months to complete starting from January 2022 to March 2022. During this process, my STS Professor was a great source to go for any questions about my research project. The most difficult part of this process was deciding the methodology to use throughout this research process. Initially, the plan was to review and analyze 2 case studies and interview UVA medical workers and AAS professors. However, due to a time constraint, I decided to add another case study to review and analyze. Picking out the sources for my research also was time-consuming because I wanted to maximize the amount of information to analyze so I would be able to come up with a well-detailed answer to my research question.

I did not work on both projects together because my Capstone project took only 1 semester to finish, instead of 2. Even though, I still was working on my Capstone project at the same time I worked on my STS Prospectus, which was supposed to outline how you will be completing both projects and when both projects will be completed. That was still a stressful experience for me because my Capstone project required my group members and me to work fast and quickly. If I did both projects together, I feel like my time management skills would have improved because I would have learned a lot in a short period of time.