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Two notable experiences I had over the summer were interning at George Mason University's Aspiring Scientists Summer Internship Program (ASSIP) and Georgetown University Medical Center's Innovation Center for Biomedical Informatics (ICBI). During ASSIP, I was working in the Volgenau School of Engineering as a Cybersecurity and Machine Learning researcher. My project was centered around comparing two datasets that are heavily cited by researchers. This comparison concerned the dataset's ability to allow classifiers to accurately detect IoT network intrusions. While working at ICBI, my primary research area was within Natural Language Processing and Machine Learning. The main goal of my project was to be able to automate the process of annotating medical notes through Word Embeddings and various Machine Learning classifiers. In all, both of these internships taught me many new concepts and techniques within the field of computer science.

After researching more into the project, I proposed last year, I realized that it was too advanced of a concept for high school research. As a result, I have decided to change my project. I am currently thinking about doing research related to the study of Generative Adversarial Networks (GANs), models that are typically used to generate images. Specifically, current GANs are only able to produce images with very low variance, meaning the images are not diverse in nature. Consequently, my project would aim to find new ways to increase the variability of the images a GAN would generate. The application of this would be to implement such a GAN to add images to your Facebook feed, as these "fake" images would have a higher variance and not bore the user. Although I am still debating and thinking about other ideas for my project, increasing the variability of GAN output is at the top of my list.