

## Waiting

Weekly Report 3/12/17 to 3/18/17

This past week I managed to meet with my mentor while also having worked on my final product. During my mentor visit with Dr. Choi I was able to not only gain an insight into some possible idea suggestions for my final product while also learning more about mechanical engineering as a whole. During the visit I was able to meet with a graduate student of Dr. Choi, Yuqi Jin, who had done some work with 3D printers in the past and recommended that I mimic the belt system and frame which was used on the printer which Dr. Choi had showed me during a previous visit. He explained that the belt system and other components used on the printer allowed it to achieve speeds much greater than other printers such as a Makerbot while still maintaining the same quality. In addition, during the visit we also discussed metamaterials which were a research focus in the UNT engineering department. They explained how metamaterials exhibited properties which were opposite to that of typical materials found naturally such as when the material is compressed or exposed to light or sound. Dr. Choi explained how metamaterials could be used to make filters for light or even sound which could allow flow in only one direction and restrict flow in other directions. From this visit I learned more about a topic which I had not heard often in the world of engineering and I was able to gain an insight into the world of metamaterials and their applications in physics and engineering. Over the break I also managed to gain some, albeit slow progress on my final product as I did receive some of the parts I needed in the mail and was able to make some slight adjustments to the frame of the printer, but I was unable to make any large progress. In the coming weeks as I eagerly await the

arrival of more parts in the mail, I hope to add these parts to my printer as soon as possible and hopefully stay on schedule.