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7/16/16

Abstract

#### Abstract-A brief description of my projects

My internship was in the IDC which consist of a machine shop and an array of design space. During my tour I worked on a wide variety of projects some of which included design, research, machining and fabrication. I gained further knowledge on some machines that I have had prior experience on such as the lathe and Hurco CNC machines. The first thing we did was complete our checkout in the machine shop which went pretty well, since I was already familiar with most of the machines. I also did a couple of practice parts on some of the machines, I made a name block on the CNC machine and I also used the vertical milling machine to complete this project. One of the other projects that I did was machine a hammer with my initials with the use of the lathe and CNC machine, this project took much longer since I had to set up a cylindrical piece on the CNC machine.

The first project that I began work on was the Systems Engineering & Management Advancement Program (SEPMAP) Hexacopter project and helped them to assemble and modify one of their particle capture doors on their boxes. After a while we ended up helping them make a hinge and holes to reduce the weight of their design. We helped the NASA Extreme Environment Mission Operations (NEEMO) team a bit with some of their name tags and assembly of some of their underwater parts. One of the more challenging projects was a rail that came in with a rather weirdly drawn part. The biggest project that I worked on was the solar array project. Which consisted of a variety of machining and 3D printing and it took me about 3 different times of re-designing to come up with a final prototype. Along with this project I also had to complete a project in which I had to modify a thermos. This was rather simple since I just had to draw up a part and print it out on the 3D printer. I also learned how to use Pro E/Creo parametric to design a square block and print it on the 3D Printer.

All of these projects increased my experience on all of the machines and equipment that I used. I also got to tweak my design skills and better understand how to modify my designs and how to improve those specific designs.