In the Roundhouse Internship, the main project that I had the opportunity to work on was designing and building an eDNA sampler. eDNA stands for environmental DNA, which is DNA that is shed by organisms into the surrounding water. Scientists can collect the DNA shed into the environment and analyze relative population sizes of a specific species and/or what species are present in the region that the eDNA sample was collected from. eDNA is becoming a very valuable tool for a variety of research projects and there is a need for cheaper and more easily accessible eDNA samplers than what is currently on the market. Eventually, this eDNA sampler will be open source, meaning that anyone can have access to the build instructions and list of materials needed to build it.

Another project that I worked on in the Innovation lab was recycling plastic into filament to be used in 3D printers. We use 3D printers on a frequent basis as a great way to prototype a project or to quickly make something that can be used in the lab. There tends to be a lot of plastic waste as not all of the prototypes end up being used or the printers missprint. I was able to take the discarded plastic and turn it back into 3D filament and successfully 3D print new projects with it!

This was my first experience with hands-on engineering and it was a great introduction into this field. Participating in this internship solidified my desires to continue down the path of engineering. While I did run into many challenges designing and building the eDNA sampler, I was able to successfully come up with solutions with the support of the iLab manager, Drummond Wengrove.

The iLab is an environment where you learn something new whenever you are there. I was able to gain many new hard skills, such as using and fixing 3D printers, and using the lathe and the milling machine. In addition, I was able to advance and develop many of my soft skills, such as my communication skills, teamwork and collaboration skills, and problem solving skills. All of these skills will be transferable to other internships or jobs that I will have in the future and will hopefully set me apart from other candidates during the application process.

The culture in the iLab was so supportive and collaborative. It made it exciting to go into work every day and I feel lucky to have met and become friends with some amazing people through the course of this year-long internship.

The scholarship was extremely helpful in removing some of the burden of high tuition costs and the internship provided me with invaluable experience. I loved this internship and working in the iLab so much that I am continuing to work on the eDNA sampler project in the iLab through the end of Spring term 2023.

Thank you so much to the Roundhouse Foundation for giving me this incredible opportunity!

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