**Introduction:**

* Jorian -> Electrical engineering student -> Specialize in robotics and control systems -> graduating Winter 2020

**Project Overview**

* Automated Microbial Analysis -> Sponsor is Analysis Laboratory -> Project goals are to automate the counting and analysis of petrifilm samples (pass/fail). Petrifilm is used to determine bacterial colony precense within liquid samples. These specific samples are for anerobic bacteria.
* Project uses a Delta robot for manipulation and movement of samples. System was chosen for its accuracy, speed, and reliabiltiy.
* Samples will be analyzed using computer vision and then sorted into pass/fail piles for pickup
* All data will be placed into a unique spreadsheet per process and made available to the client

**Project Roles**

* My role was the mechanical design
* Designed all the mechanical parts including the Frame, end effector, arms, motor mounts, motors, and mounting apparatus'
* Used CAD tools to design all the parts
* Used a 3D printer to manufacture any custom parts
* Used generative design tools to minimize material costs while maintaining strucutural integrity.

**Takeaways**

* Developed mechanical skills in control systems
* Utilized advanded design techniques to generate organic shapes
* Collaborated with a diverse team to complete a complex project.

A link to the recording can be found here (I did not have access to a working webcam for this, sorry)

<https://drive.google.com/open?id=1vYuGMOYrPq_KzEH4uz40xzkmvdgGDscQ>