



# St. Jude BioHackathon

## **Title**

Increasing the reliability and resiliency of the Image Processing Pipeline (IPP) plugin

## **Category**

DevOps and Community

## **Challenge**

We have developed an Image Processing Pipeline (IPP) to run any workflow and access it via web browser. IPP helps research-staff who do not have computational background to run a workflow without knowing the underlying details/programming. It also monitor jobs and allows one to view the job progress in real-time. This is a unique solution, but we need to increase its reliability and resiliency by integrating load balancer and replicated instances.

## **Benefit**

This will allow the St. Jude Scientific Community to run imaging analysis workflows from a web browser. It will eliminate the burden of needing computational skills to run these analyses. The proposed improvements to the pipeline will improve analysis speed and increase robustness of the system.

## **Helpful Tools, Packages, or Software**

Load balancer, Kubernetes. The platform is built with python, flask, and MongoDB, so knowledge of those technologies will be helpful.

## **Test Data**

Access to the IPP will be provided to those interested.