**Project Name : SocialEyes(NicholasB.)**  
**Project Scope:** SocialEyes is creating myriad points of access for healthcare to serve at-risk populations everywhere. Our team comprises domain experts in basic science, machine learning, medicine, optics, electromechanical design, illumination, clinical decision support software, and user experience.  
  
In this project, the following steps outline a solution that implements the basic components of a Nucleus deployment. To handle communication from end users, an Amazon Elastic Compute Cloud (Amazon EC2) instance configured as an NGINX reverse proxy is deployed in a public subnet. The reverse proxy accepts TLS traffic utilizing a TLS certificate from the Amazon Certificates Manager.  
 Typically, this component would be an Elastic Load Balancer (ELB), but Nucleus requires path rewrites in the request which is not currently supported by an ELB. The Nucleus Server is an Amazon EC2 instance deployed to a private subnet that only accepts traffic from the reverse proxy subnet. The Nucleus Server is running the Nucleus Enterprise Stack, which is deployed as a Docker Compose Stack. Thus, Nucleus will need a NAT Gateway and Internet Gateway to communicate with the NVIDIA Container Registry.

And we deploy an Omniverse Virtual Workstation on AWS. An Omniverse Virtual Workstation allows users the ability to create or provision a virtual machine with graphical capabilities with Amazon Web Services (AWS), eliminating the need to run Omniverse applications locally on an RTX-enabled desktop or laptop computer.  
  
  
**Infrastructure:** Manually deployed using AWS console.  
**Services used:**1) Amazon EC2.  
2) Amazon Certificates Manager.  
3) Elastic Load Balancer (ELB).  
4) NVIDIA Container Registry.  
5) NVIDIA Enterprise Omniverse Nucleus packages   
6) Nitro Enclaves Marketplace Subscription  
7) Amazon Virtual Private Cloud (VPC).  
8) Route53 as a DNS  
9) AWS backup.  
10) Reverse Proxy Server  
11) Amazon S3  
12) Amazon EBS  
13) AWS Certificates Manager for Nitro Enclaves