URP opportunities in Summer 2021 and/or Fall 2021 are available for students interested in networked virtual reality applications and have background knowledge of computer networking. The project involves setting up an online collaborative VR environment, called VORTEX. The platform allows doctors and nurses to collaborate on virtual surgery training remotely.   
   
The tasks of the URP include:  
1. Implement and evaluate a novel network protocol that is optimized for multi-player VR applications.  
2. Synchronize user inputs and the environment updates across the network.  
3. Deploy and optimize the system.  
  
Knowledge of computer networking and programming skills (such as C#/C++ and/or scripting languages, e.g., Python) are required. Knowledge of machine learning is a plus. If interested please send an email to Prof. Abouzeid, [abouzeid@ecse.rpi.edu](mailto:abouzeid@ecse.rpi.edu) briefly highlighting your relevant expertise in the email, and attach a resume, and use the title VORTEX URP.