A High Resolution UWG Drone Orthophoto with OpenDroneMap Cluster Computing
Presenters Patrick Mannella and Sawyer Steele, Geography majors
Mentored by Dr. Jeong Seong

Our presentation focused on three objectives relative to capturing up to date drone imagery of university property and compiling it into one mosaic image. This application serves a practical purpose to the university by providing an accurate high resolution aerial map of campus. This mosaic image was created by using a commercial software called Pix4d. The next two objectives focus on the processing of the imagery using an open source imagery processing software called OpenDroneMap in a distributed computing environment. The first objective came by testing the various parameters offered by the software to produce the highest quality drone orthophoto map while maintaining the accuracy and integrity of the images. The Final objective is relative to using cluster computing to measure and improve performance of the OpenDroneMap software. This involves taking multiple nodes and using their processing power to increase the performance of image processing. We tested processing time against number of images as well as number of computing nodes. In sum drone imaging may provide timely information for various applications, and processing time may be reduced significantly by using a clustered computing environment.