

# UNIVERSITY OF SOUTH FLORIDA

## *Defense of Master's Thesis*

Automated Identification of Stages in Gonotrophic Cycle of Mosquitoes  
Computer Vision Techniques

by

Sherzod Kariev

For the M.S. degree in Computer Science

In this paper, we design Computer Vision techniques to determine stages in the Gonotrophic cycle of mosquitoes. The dataset for our problem came from 125 adult female mosquitoes - belonging to one of three species: *Culex tritaeniorhynchus*, *Culex quinquefasciatus*, and *Anopheles stephensi*. The mosquitoes were raised in a lab and passed through all four Gonotrophic stages (Unengorged, Engorged, Semi-gravid, and Gravid). At each stage, their images were captured on a plain background via smartphones,