UNIVERSITY OF SOUTH FLORIDA

Defense of a Master's Thesis

Edge Computing for Deep Learning-Based Distributed Real-time Object Detection on IoT Constrained Platforms at Low Frame Rate

by

Lakshmi Kavya Kalyanam

For the MSCP degree in Computer Engineering

As the era of IoT (Internet of Things) and Edge Computing emerges, there is a demand for real-time applications in the field of computer vision. Implementing IoT with neural networks for image and video recognition has shown promising performance when deployed in complex environments. There is an emerging demand for applications that require data computation in real-time with low latency. In an effort to address these issues, while keeping in mind the limited computing capabilitiebib05Ta local cluster of

proposed. We used PYNQ Z1 AP-SoC (All Programmable Sys
for object detection and classification. The distributed archite
the PYNQ platform. The proposed work is on a wireless distri