

Thesis Defense

for

Master of Science Degree
in Computer Science

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Iot Reliance on cloud computing and Fog computing

Abstract:

Every day, more Internet of Things (IoT) devices and their data are appearing, which is causing problems for the traditional cloud-based architecture used for processing and storage. This traditional model might need to be supplemented with another approach to better handle future IoT applications. While many researchers have developed algorithms and models focusing on distributed architectures, these often have two main problems. First, they are usually tested in simulations rather than on real hardware, which doesn't fully represent real-world conditions. Second, these models often distribute entire tasks rather than dividing a single task among multiple devices. The goal of this thesis is to explore the challenges of traditional architecture in the IoT context and look for gaps in current research, particularly in computing approaches. It aims to develop and test a new architecture model that allows multiple off-the-shelf hardware devices to work together on a single task. This model is assessed based on how quickly it completes tasks, how well it handles different sizes of data, and how scalable it is. The results indicate that the new system can effectively divide a single task among various devices, completing it more efficiently. Systems with multiple devices perform better in terms of task completion time and don't have significant scalability problems. The findings also reveal that tasks divided and distributed among multiple devices are completed much faster.

Monday, March 25, 2024

2:30 - 3:00 PM

Engineering A-Wing Rm A309C

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