August 2018 Progress Report

By

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Outline

- Objectives
- August Progress
- September Plans

Working Title

Towards a Robust Wireless Sensor Network-based Automatic Weather Station

Main Objective

To design mechanisms to improve robustness of WSN-based AWSs

Specific Objectives

- To investigate the status of weather stations in order to establish challenges affecting their operations and identify opportunities for improving the sustainability of Automatic Weather Stations (AWSs)
- To propose robust optimization techniques for WSN-based AWSs design to address challenges identified
- To propose Quality of Service assessment techniques for the AWS to assess the robustness and performance of the WSN-based AWS

August Plans and accomplishments

- Self-healing and self-adaptive Wireless Sensor Network Application for Weather Monitoring- 2nd objective
  - To send to sensor and actuator networks journal
  - Contributions to include: Assessment of failure modes, autonomous self-healing mechanism **Not done**
- Outline on paper: Quality of Service and Condition Monitoring of Automatic Weather Stations Based on Wireless Sensor Networks

  3rd Objective
  - Data mining technique
  - Provide a new architecture of QoS
  - Workload-Based Resource allocation
  - *Generating results to the paper (Done)*
- Assembly process

September Plans

- **Quality of Service and Condition Monitoring of Automatic Weather Stations Based on Wireless Sensor Networks paper**
  - Incorporating feedback from Bjorn
  - Submit 5th September 2018
- Compile Content for self-healing (2nd objective)
  - Cost assessment of the data collection process
  - An optimal energy-efficient data collection scheme using data coding
  - Robust driver design model
  - Assessment of failure modes, autonomous self-healing mechanism
- Start thesis and share draft chapter 1 with advisors
- Participate in the deployment of gen 3 AWS
- PhD core course , starting 3rd September 2018

THANK YOU