NORTH SOUTH UNIVERSITY

Port Area Security Surveillance Using Deep Learning

A DISSERTION
SUBMITTED TO THE DEPARTMENT OF
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Declaration

It is hereby acknowledged that:

- No illegitimate procedure has been practiced during the preparation of this document.
- This document does not contain any previously published material without proper citation.
- This document represents our own accomplishments while being Undergraduate Students in the **North South University**

Sincerely,

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Approval

I certify that I have read this dissertation and that, in my opinion, it is fully adequate in scope and quality as a dissertation.

DR. SHAFIN RAHMAN, Instructor and Supervisor

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Abstract

Intelligent Surveillance Technologies are currently incorporating public surveillance. Port crimes such as stealing have risen significantly in recent years, posing a severe threat to human life both globally and in Bangladesh.[1] Video surveillance is progressing beyond security to include intelligent video applications. There is a spike in the use of technology with extremely high standards everywhere, including airports, cities, retail businesses, and workplaces around the world and in our own country.[2] With the ability to distinguish small visual elements from long ranges, security teams can avert or alert to keep port people and assets safe. The identification of moving vehicles on the port can then be used to improve intelligent transportation systems including vehicle counting, tracking, and categorization.[3] Detecting person is also a subclass of object detection. It relates to locating individuals in images, determining their location and range, and has numerous applications in sectors such as video surveillance and target tracking.[4] The goal is to demonstrate an approach that consistently outperforms various kinds of moving objects, such as individuals and vehicles. As a result, it is effective to detect many classes of moving objects in security cameras. It is also computationally rapid and suitable for real-time detection of moving objects. However, in our project we will focus on detecting moving objects, vehicles in our case and try to identify its model and digitalize data entry by identification as the car moves from the container to the shades. Then we will work on the tracking of the detected and identified vehicles that arrives at the port along with that we tried to count the detected vehicles in a frame and also we saved the cropped images of the identified vehicles so that we know the cars or vehicles that has arrived from the ship to the shed.