NORTH SOUTH UNIVERSITY

DEPARTMENT OF ELECTRICAL & COMPUTER ENGINEERING

Senior Design Thesis Report

Fine-Grained Generalized Zero-Shot Learning

A DISSERTATION SUBMITTED TO THE DEPARTMENT OF ELECTRICAL & COMPUTER ENGINEERING AT NORTH SOUTH UNIVERSITY

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Declaration

It is hereby acknowledged that:

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

Sincerely,

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

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Abstract

Fine-Grained Generalized Zero-Shot learning is the state of the art technology in the domain of computer vision and pattern recognition. In this project we are prepare our model to do GZSL where during the testing time an unseen/novel image will put as an input to the model which image classes aren't using during the training time. To overcome this Challenge we leverage the semantic information of the both seen (source) and unseen (Target) classes to bridge the gap within them. To solve the fine-grained GZSL recognition of visually similar classes.

To find out the difference between small intra-class and large intra-class variation, we use the dense attribute attention mechanism where for each attribute focuses on the most relevant image regions, obtaining attributes features.

For classification training we compute the scores of attributes vector and classify the image attributes whose similarities is maximum with the semantic vector class. We conduct the experiment on the two popular datasets of CUB and AWA2 to examine our model.