Department of Electrical and Computer Engineering
North South University

Senior Design Project
Face Recognition Attendance System

Submitted By

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Summer 2019

Date of Submission: 12/09/19

LETTER OF TRANSMITTAL

September, 2019

To

Dr. K. M. A. Salam

Professor & Chairman

Department of Electrical and Computer Engineering,

North South University, Dhaka.

Subject: Submission of Capstone Project on “Face Recognition Attendance system”

Dear Sir,

With due respect, we would like to submit our Capstone Project Report on “Face Recognition Attendance System” as a part of our BSc program. The report deals with maintaining attendance as it’s very important in all institutes and work place for checking the performance of students and employee. In most institutions, attendances are manually taken by the use of attendance sheets. But this method is time consuming and as someone can sign for their absent colleagues. In this project, we propose the design a face recognition system to automatically detect persons attending their work and mark their attendance by recognizing their faces. We tried our level best to make the report meaningful and informative. The Capstone project was very much valuable to us as it helped us to gain experience from practical field. It was a great learning experience for us. We tried to the maximum competence to meet all the dimensions required from this report.

We will be highly obliged if you are kind enough to receive this report and provide your valuable judgment. It would be our immense pleasure if you find this report useful and informative to have an apparent perspective on the issue.

Sincerely Yours,

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[Syeda Tahsina]
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APPROVAL

The capstone project entitled “Face Recognition Attendance System” by Syeda Tahsina (ID 1521376642), Rafsan Jani Mahmud (ID 1520495042), Subha Mollika (ID 1411660642) , Shahreen Sultana (ID 1521173042) and Nazmus Sakib (ID 1521166042) is approved in partial fulfillment of the requirement of the Degree of Bachelor of Science in Computer Science and Engineering on August, 2019 and has been accepted as satisfactory.

Supervisor

Dr. Ashrafuzzaman Khan
Assistant Professor
Department of Electrical and Computer Engineering
North South University
Dhaka, Bangladesh.

Department Chair:

Dr. K. M. A. Salam
Professor & Chairman
Department of Electrical and Computer Engineering
North South University
Dhaka, Bangladesh.

DECLARATION

This is our truthful declaration that the “Capstone Project Report” we have prepared is not a copy of any “Capstone Project Report” previously made by any other team. We also express our honest confirmation in support of the fact that the said “Capstone Project Report” has neither been used before to fulfill any other course related purpose nor it will be submitted to any other team or authority in future.

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ACKNOWLEDGEMENT

First of all, we wish to express our gratitude to the Almighty for giving us the strength to perform our responsibilities and complete the report. Then we would like to express our deep gratitude to Dr. Ashrafuzzaman Khan, our project supervisor for his patient guidance, valuable and constructive suggestions during the design and implementation of this project. His willingness to give his time so generously has been much appreciated.

ABSTRACT

Face detection system has mostly gained attention for its huge application and market potential, such as face identification and video surveillance system. Real-time face detection and recognition is not only part of the recognition system but it is also becoming of the major subject for research. So, there are numerous ways to solve face detection. This paper will give a new implementation in automatic attendance management systems that is extended with computer vision algorithms. Supervised learning using convolutional networks (CNNs) has huge assumption in face recognition than unsupervised learning. In our project, we like to help the gap between the success of CNNs for supervised learning and unsupervised learning. We bring a class of CNNs called deep convolutional generative adversarial networks (DCGANs) that contains selective architectural constraints and denote that they have a strong prospect for unsupervised learning. We trained various image datasets, and showed decisive evidence that deep convolutional adversarial matches a hierarchy of presentations from object to scenes in both the generator and individual. Also, we use the learned features that demonstrates their significance as widespread image representations. This latest technique pursue to be much efficient than traditional methods like calling the names in the class; moreover, this is discrete and does not interfere with the regular teaching process. This method promises to give accurate and specific results of the face with more detailed information which shows student activity and their attendance in a classroom. This paper will introduce how we can apply algorithms for face detection and recognition in image processing to improve a system that will identify and recognize frontal faces of students in a classroom.