



North South University

EEE 499

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Declaration

This is to declare that no part of this report or the project has been previously submitted elsewhere for the fulfillment of any other degree or program. Proper acknowledgement has been provided for any material that has been taken from previously published sources in the reference section of this report.

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APPROVAL

The Capstone project entitled “Efficient Intelligent Solar Tracking Control System” by Mahima Anwar (ID-1631549043), Md. Asif Abbas (ID-1721367043), Tahsin Tabassum Urnisha (ID-1632001043) is approved in partial fulfillment of the requirement of the Degree of Bachelor of Science in Electrical and Electronic Engineering and has been accepted as satisfactory.

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Acknowledgement

Project is a bridge between theoretical and practical work. With this willing, we joined this project. We would like to express our sincere gratitude to Dr. Atiqur Rahman Sir for providing his valuable guidance, comments, suggestions and support through the entire course of the project. His constant encouragement and monitoring is so great that our profound gratitude is not enough. The accomplishment of the project benefits of help and direction from our respected supervisor who was always willing to help us solve the confusions and direct us to approach the final result of this project.

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Abstract

Electricity demand of Bangladesh has been increasing at an average pace of 10% over the last decade. There is still scarcity of electricity in many rural areas of Bangladesh. Renewable-energy-based system will bring more benefits than conventional power. Solar energy is a renewable free source of energy that is sustainable and also a non-polluting source of energy. Nowadays solar power is being used to meet the shortfall of electricity. The paper considers an efficient intelligent solar tracking system to increase the efficiency of solar energy production. The purpose of the paper is to generate electricity from solar energy & increasing efficiency. In the project, two dual axis solar panels which have been attached with two servo motors, collect solar energy by rotating both vertically and horizontally. Another solar panel is connected which lies in a horizontal plane to compare the difference in the electrical output of the two different setups and calculate the efficiency. Data is collected in different weather conditions by the solar panels. RF module is used to transmit data over the wireless channel. The receiver part of the RF module is connected to the computer and received data is monitored in real time. The main aim of this project is to increase the efficiency of the solar panel to meet the rising demand of electricity in lower cost in Bangladesh. Solar energy can be widely used for different purposes in Bangladesh by installing large solar grids to minimize the cost and get maximum efficiency.