Department of Electrical and Computer Engineering
North South University

Senior Design Project

Generation of Electricity from Traffic Noise

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Faculty Advisor:

Dr. K. M. A. Salam

Professor

Department of Electrical and Computer Engineering

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DECLARATION

This is to certify that this Project is our original work. No part of this work has been submitted elsewhere partially or fully for the award of any other degree or diploma. Any material reproduced in this project has been properly acknowledged.

Students' names & Signatures

1. Ahmed Nasif Bhuiyan

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2. Humaira Binte Faruk Pearl

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3. Md. Kamrul Hasan Shuvo

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4. Maisha Tabassum Suhi

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APPROVAL

We, **Ahmed Nasif Bhuiyan (ID#1511811643),Humaira Binte Faruk Pearl (ID#1631998043), Md. Kamrul Hasan Shuvo (ID#1711743043) and Maisha Tabassum Suhi(ID#1711944043)** members of EEE/ETE: 499 (Senior Design) from the Electrical and Computer Engineering department of **North South University**; have worked on the project titled **“Generation of Electricity from Traffic Noise”** under the supervision of **Dr. K. M. A. Salam** as a partial fulfillment of the requirement for the degree of Bachelors of Science in Electrical & Electronic Engineering and has been accepted as satisfactory.

Supervisor’s Signature

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Dr. K. M. A. Salam
Professor

Department of Electrical & Computer Engineering

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Dhaka, Bangladesh.

Chairman’s Signature

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Dr. Rezaul Bari
Associate Professor & Chairman

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ACKNOWLEDGEMENT

By mercy of the Almighty, we have completed our senior design capstone project entitled **"Generation of Electricity from Traffic Noise"**. Foremost, we would like to express our sincere gratitude to our advisor **Dr. K. M. A. Salam** for his continuous support in our capstone project progress throughout the whole 499A and 499B, for his patience, motivation, enthusiasm, and immense knowledge. His guidance helped us in all the time of research, writing and completing of this project.

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Abstract

Bangladesh is far behind among its South Asian neighbors in utilizing renewable energy resources for electricity generation. Energy demand in Bangladesh is increasing day by day. Due to densely populated, energy is being consumed at a rapid rate which will completely exhaust the conventional energy resources within a short time. Bangladesh has different sources of renewable energy like wind energy, solar energy, hydro-electric, biomass, biogas resources etc. This paper explores a comparatively less popular source of clean energy. Noise (sound) energy can be converted into feasible source of electric power by using a suitable transducer mic. This can be done by using a transducer mic by converting vibrations caused by noise into electrical energy. An application is proposed for the same, in which a Microphone and an Operational Amplifier are used to convert the traffic noise into electrical energy and also boost up the energy. The vibrations created by noise can be converted into electrical energy through the principle of electromagnetic induction in microphone. The converted signal is boost up using an Operational Amplifier. The demonstrated ideas probe into a clean and readily available source of energy.