Department of Electrical and Computer Engineering
North South University

Senior Design Project

RESEARCH PAPER GUIDELINE GENERATOR (RPGG)

Siaam Ibn Ali	**ID# 1931863042**
Md. Jafor Sadek	**ID# 1931469042**

Faculty Advisor:

Dr. Mohammad Ashrafuzzaman Khan

Assistant Professor

ECE Department

Summer 2023

LETTER OF TRANSMITTAL

November 2023

To
Dr. Rajesh Palit
Chairman,
Department of Electrical and Computer Engineering
North South University, Dhaka

Subject: **Submission of Capstone Project Report on "Research Paper Guideline Generator"**

Dear Sir,
With due respect, we would like to submit our **Capstone Project Report** on **"Research Paper Guideline Generator"** as a part of our BSc program. The report deals with academic papers such as research and conference papers. This project was very valuable to us as it provided new challenges and helped us learn more, especially in the data and Natural Language Processing field. We tried to meet the standards of this report.

We will be highly obliged if you kindly 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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Siaam Ibn Ali
ECE Department
North South University, Bangladesh

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Md. Jafor Sadek

ECE Department

North South University, Bangladesh

APPROVAL

Siaam Ibn Ali (ID # 1931863042), and Md. Jafor Sadek (ID # 1931469042) from Electrical and Computer Engineering Department of North South University, have worked on the Senior Design Project titled "**Research Paper Guideline Generator**" under the supervision of Dr. Mohammad Ashrafuzzaman Khan partial fulfillment of the requirement for the degree of Bachelors of Science in Engineering and has been accepted as satisfactory.

Supervisor's Signature

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Dr. Mohammad Ashrafuzzaman Khan

Assistant Professor

Department of Electrical and Computer Engineering

North South University

Dhaka, Bangladesh.

Chairman's Signature

…….

Dr. Rajesh Palit

Professor

Department of Electrical and Computer Engineering

North South University

Dhaka, Bangladesh.

DECLARATION

This is to declare 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. All project related information will remain confidential and shall not be disclosed without the formal consent of the project supervisor. Relevant previous works presented in this report have been properly acknowledged and cited. The plagiarism policy, as stated by the supervisor, has been maintained.

Students' names & signatures

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1. Siaam Ibn Ali

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2. Md. Jafor Sadek

ACKNOWLEDGEMENTS

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Furthermore, the authors would like to thank the Department of Electrical and Computer Engineering, North South University, Bangladesh, for facilitating the research.

ABSTRACT

RESEARCH PAPER GUIDELINE GENERATOR

Our project presents the development and implementation of the "Research Paper Guideline Generator," a project designed to assist researchers and students in navigating the vast landscape of research papers. The project inputs a research or project paper topic and generates a guideline with a curated list of similar papers, ordered by difficulty level. By leveraging natural language processing techniques and similarity measures, the tool aids in discovering relevant papers and provides a structured learning progression. The paper discusses the background, motivation, purpose, and goals of the project, along with the methodologies employed in topic analysis, similarity assessment, and difficulty level ranking. Additionally, the paper highlights the potential societal impacts, including improved knowledge accessibility, research collaboration, and advancement in various domains. The "Research Paper Guideline Generator" project represents a valuable contribution to enhancing efficiency and organization in the research process, empowering researchers and students with a tool for effective resource discovery and informed decision-making. The project is not yet fully ready, however progress has been made, unigram and bigram analysis, as well as cosine similarity has been used, and distributions were found, along with cosine similarity between unigrams of papers and common english, and also cosine similarity between bigrams of papers and common english. The purpose of using these processes is to be able to rank papers in order of difficulty, according to cosine similarity.