

**A TEMPLATE FOR WRITING THESIS REPORT FOR HSTU**  
**(TITLE)**

A thesis submitted to the Department of Computer Science and Engineering,  
Hajee Mohammad Danesh Science and Technology University,  
in partial fulfilment of the requirements for the degree of  
B.Sc. (Engineering) in Computer Science and Engineering.

Course Code: CSE 452

Course Title: Project and Thesis Sessional

By

**Member A**

**Member B**

**Member C**

Student ID: 000000

Student ID: 000000

Student ID: 000000

Session: YYYY

Session: YYYY

Session: YYYY

Supervised By

**Supervisor Name**

Designation



Department of Computer Science and Engineering  
Faculty of Computer Science and Engineering  
Hajee Mohammad Danesh Science and Technology University  
Dinajpur-5200, Bangladesh

October, 2023

Department of Computer Science and Engineering  
Faculty of Computer Science and Engineering  
Hajee Mohammad Danesh Science and Technology University  
Dinajpur-5200, Bangladesh



## CERTIFICATE

This is to certify that the work entitled '*A Template for Writing Thesis Report for HSTU (Title)*,' authored by Member A, Member B, and Member C, has been carried out under our supervision. To the best of our knowledge, this work is original and has not been submitted elsewhere for any diploma or degree.

Co-supervisor

.....

(Co-supervisor Name)

Designation

Department of Computer Science and Engineering

Hajee Mohammad Danesh Science and Technology University

Dinajpur-5200, Bangladesh

Supervisor

.....

(Supervisor Name)

Designation

Department of Computer Science and Engineering

Hajee Mohammad Danesh Science and Technology University

Dinajpur-5200, Bangladesh

Department of Computer Science and Engineering  
Faculty of Computer Science and Engineering  
Hajee Mohammad Danesh Science and Technology University  
Dinajpur-5200, Bangladesh



## DECLARATION

The work entitled '*A Template for Writing Thesis Report for HSTU (Title)*,' which has been carried out in the Department of Computer Science and Engineering at Hajee Mohammad Danesh Science and Technology University, is original and conforms to the regulations of this University.

We understand the University's policy on plagiarism and declare that no part of this thesis has been copied from other sources or previously submitted elsewhere for any degree or diploma.

.....  
(Member A)

Student ID: 000000

Session: YYYY

membera@gmail.com

.....  
(Member B)

Student ID: 000000

Session: YYYY

memberb@gmail.com

.....  
(Member C)

Student ID: 000000

Session: YYYY

memberc@gmail.com

# Acknowledgment

Express gratitude to everyone who played a role, no matter how small, in the entire process of the work. Prioritize thanking individuals sequentially, placing those who were most helpful at the top. Additionally, acknowledge those who contributed through funding, providing datasets, or in any other meaningful way.

# Dedication

Whom you wish to dedicate this work to, whether it's your parents, family, loved ones, friends, or anyone else close to you.

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# List of Abbreviations

| <b>Notation</b> | <b>Description</b> |
|-----------------|--------------------|
|-----------------|--------------------|

|      |   |
|------|---|
| HSTU | Hajee Mohammad Danesh Science and Technology University |
|------|---|

# Abstract

A thesis abstract is a concise summary of a research paper's main arguments, methods, results, and conclusions. Typically limited to a word count, it serves as a preview, allowing readers to quickly grasp the essence of the study. The abstract should begin with a clear statement of the research problem or question, followed by a brief description of the research methods employed. It should then outline the key findings and their implications. Conclusions drawn from the study should be highlighted, emphasizing their significance and potential impact on the field. Importantly, the abstract must be self-contained, meaning it doesn't require references to the main paper. Also, it should be written in a formal tone, free from jargon, acronyms, and ambiguous language, ensuring accessibility to a wider audience. Ultimately, a well-crafted thesis abstract provides a snapshot of the research, enticing readers to delve deeper into the full paper for comprehensive insights.

**Keywords:** *lowercase, keywords, unless, capitalized, word.*

# **Chapter 1**

## **Introduction**

## **1.1 Background**

The introduction of a thesis serves as the gateway to the research, offering a concise preview of the study's core elements. It encapsulates the research problem, objectives, and significance, capturing the reader's interest. The rules for this section necessitate clarity and focus. It must succinctly present the research topic, its context, and the gaps in existing knowledge. The introduction should clearly define the scope and limitations of the study, outlining what the research aims to achieve and what it won't address. Additionally, it must establish the research's relevance, emphasizing its potential contributions to the academic field or real-world applications. A compelling introduction sets the stage, motivating readers to explore the thesis further.

### **1.1.1 Subsection(s)**

Generate as many subsections as necessary to enhance the clarity and understanding of the section. While doing so, ensure a smooth flow throughout the content.

## **1.2 Motivation and Inspiration**

The motivation and inspiration section elucidates the driving factors behind the research endeavor, outlining the reasons why the study is significant and necessary. It sets the context, explaining the gap in existing knowledge or the problem that the research aims to address. This section serves to captivate the reader's interest, clearly stating the research questions and objectives while demonstrating the project's relevance to the academic field or practical applications. Rules for crafting this section involve clarity in articulating the research problem, providing solid background information, and explaining the potential impact of the study. It should be concise, focusing on the core issues, and avoid vague statements. Additionally, it must establish the researcher's passion and genuine interest in the topic, compellingly conveying why the study is not only essential academically but also personally significant, thus engaging the readers emotionally and intellectually.

### **1.3 Objectives**

The objectives section outlines the specific goals the researcher aims to achieve. It clarifies the study's purpose, guiding the research process. The objectives must be clear, concise, and achievable within the study's scope. They should be measurable and time-bound, providing a roadmap for the research methodology. Each objective must align with the research questions, indicating what the researcher intends to accomplish. Objectives should be realistic and focused, ensuring that the study remains manageable and the outcomes contribute meaningfully to the field. Additionally, they should be framed in a way that allows for evaluation, enabling the researcher to determine if and how each objective has been met by the end of the study.

### **1.4 Scope**

The scope section defines the boundaries and limitations of the study, outlining what will be included and excluded. It sets the parameters for the research, clarifying the specific aspects, variables, and geographical or temporal limits under investigation. The rules for this section require precision and clarity. It must be explicit about the depth and breadth of the study, detailing the range of topics, sources, and methodologies. Avoid ambiguity, ensuring readers understand the study's focus. The scope section serves as a lens, guiding the researcher and readers about the study's scale and boundaries, providing essential context for interpreting the research findings.

### **1.5 Thesis Organization**

This thesis is structured into five chapters, each with a specific focus. A brief summary of these chapters is presented below.

Chapter 1 serves as an introduction to this thesis, highlighting its main objective, motivation, research problems, and contributions.

Chapter 2 provides an overview of important concepts and background knowledge relevant to the domain. It also explores existing studies related to transliteration, highlighting their limitations.

Chapter 3 outlines the complete methodology proposed in this thesis. It covers various aspects such as dataset description, preprocessing techniques, feature encoding and

selection methods, performance measures, and the models employed.

Chapter 4 delves into the conducted experiments and presents detailed findings. It critically evaluates and discusses the outcomes of these experiments.

Chapter 5 concludes the work presented in this thesis and outlines potential directions for future research.



**Chapter 2**  
**Literature Review**

## 2.1 Introduction

A literature review is a critical evaluation of existing research on a specific topic, aiming to identify gaps and provide a foundation for further investigation. It involves analyzing and combining relevant sources to understand the current state of knowledge. Write more text based on your work...

## 2.2 Section(s)

The background knowledge section provides essential context for readers, ensuring they comprehend the foundational concepts and theories crucial to the study. It elucidates fundamental principles, historical context, and key terminology relevant to the research topic. The rules for this section mandate clarity and relevance. It must offer concise explanations, avoiding unnecessary jargon, and focus on information directly pertinent to the study. The background knowledge should be presented logically, building a strong foundation for the thesis. Additionally, it should be comprehensive yet succinct, giving readers a clear understanding of the basics without overwhelming them with excessive details, fostering a smooth transition into the main body of the research.

To achieve this goal, write the required sections and subsections to provide detailed explanation. As an illustration, the subsequent text pertains to content generated at random by ChatGPT.

In the realm of natural language processing (NLP), algorithms have become pivotal in understanding and generating human-like text. [1] provides valuable insights into the nuances of important topics, laying the groundwork for subsequent research. Building on this foundation, [2] explored new approaches in the important field, as presented in the proceedings of the International Conference on Important Studies. Moreover, reputable online resources play a vital role in contemporary research methodologies. The webpage by the reputable organization [3] offers a wealth of information on emerging trends in NLP. For a comprehensive understanding of the fundamental concepts, [4] remains a cornerstone in the field. Additionally, academic theses such as [5] provide in-depth analyses, further enriching the discourse in NLP.

## 2.3 Related Works

The related work section examines prior research in the field, offering a comparative analysis of existing studies related to the topic. It critically evaluates methodologies, findings, and contributions made by previous researchers. The rules for this section demand depth and insight. It must provide a comprehensive review of relevant literature, focusing on seminal works and recent advancements. A critical perspective is essential, highlighting gaps or contradictions in existing research. The related work should be organized thematically, showcasing the evolution of ideas and theories. Furthermore, it should emphasize the unique contribution the current study makes, demonstrating a clear understanding of the existing body of knowledge while pointing out areas that require further exploration.

Ensure proper citation using BibTeX formatting. If feasible, create a summary table highlighting key works relevant to this study.

## 2.4 Problem Statements

The problem statement section succinctly defines the issue that the research aims to address. It provides a clear, concise description of the problem's scope and significance, emphasizing its relevance to the field of study. The rules for this section involve specificity and focus: the problem should be sharply defined, avoiding ambiguity, and clearly articulating the gap in existing knowledge. It must be researchable and feasible within the constraints of the study. Furthermore, the problem statement should be rooted in evidence, supported by relevant literature, and express the need for further investigation, highlighting its importance to both academics and practitioners.

## 2.5 Proposed Solutions

The proposed solution section presents the researcher's approach to addressing the identified problem. It outlines the strategies, methods, or interventions designed to resolve the issue discussed in the thesis. The rules for this section emphasize clarity and feasibility. The proposed solution must be logically connected to the identified problem, demonstrating a comprehensive understanding of the issue at hand. It should be innovative, offering new insights or practical applications to existing problems. Additionally, the proposed solution must be realistic, considering the resources, time, and scope of

the study. Clear explanations and justifications for the chosen methods or approaches are essential, ensuring that the reader understands the viability and potential impact of the proposed solution.

# **Chapter 3**

## **Proposed Approach**

### 3.1 Introduction

The methodology outlines the systematic approach taken to conduct the research. It provides a detailed account of the research design, data collection methods, and analysis techniques employed. The rules for this section emphasize clarity and reproducibility. The methodology must be described in a step-by-step manner, enabling other researchers to replicate the study. It should justify the chosen methods, explaining how they align with the research questions and objectives. Precision is crucial; each method and tool used must be clearly defined. Additionally, ethical considerations and limitations should be addressed, ensuring transparency and integrity in the research process.

Provide a visual representation of the comprehensive proposed methodology, and elaborate on it. For instance, refer to Fig. 3.1 for an illustrative example<sup>1</sup> of the methodology in action.

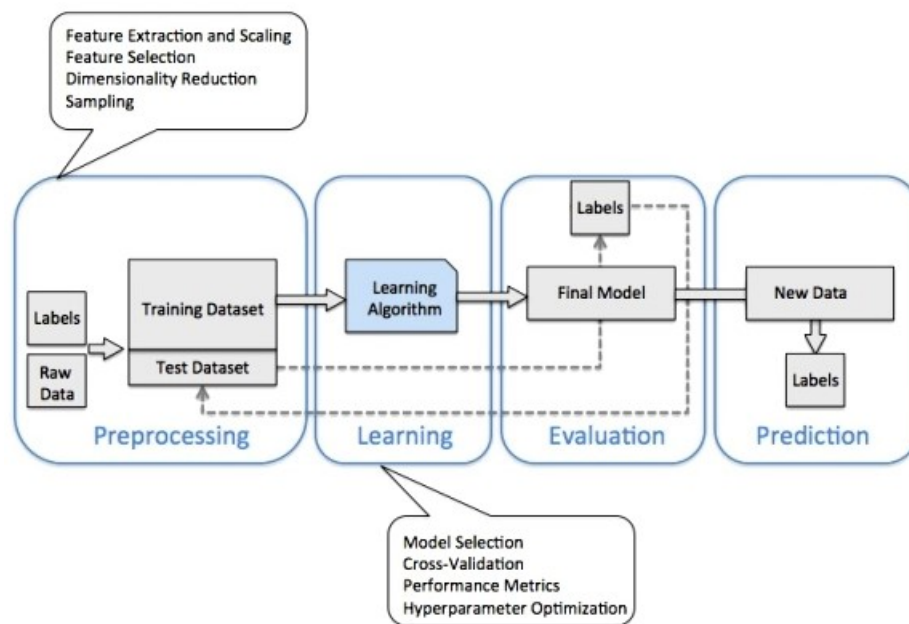


Figure 3.1: Proposed Methodology

### 3.2 Section(s)

To provide a comprehensive understanding of the proposed methodology, break it down into easily digestible sections and subsections. Thoroughly explain each component and model selection, emphasizing the rationale behind the choices. Ensure clarity and accessibility throughout the document, making it easy for readers to grasp the presented

<sup>1</sup><https://techsparks.co.in/hot-topic-for-project-and-thesis-machine-learning/>

concepts. Additionally, maintain proper citation practices, giving due credit when incorporating external resources, such as images or data, into the work.

You can generate an abbreviation and incorporate it into your text, for example: Hajeer Mohammad Danesh Science and Technology University (HSTU). Upon initial use, the complete meaning will be displayed. Subsequent references will only present the abbreviated form, such as HSTU.

Here are some examples of lists (bullet and numbered), tables, algorithms, and equations.

The following list consists of unordered bullet points.

- **Label 1:** Some text...
- **Label 2:** Some text...

The following list consists of numbered points.

1. **Label A:** Some text...
2. **Label B:** Some text...

Table 3.1 displays randomly generated values for accuracy, precision, and F1-score as performance measures.

Table 3.1: Results of Experiment

| Model   | Dataset      |              |              |
|---------|--------------|--------------|--------------|
|         | Accuracy     | Precision    | F1           |
| Model A | 93.57        | 77.24        | 95.36        |
| Model B | 95.70        | 60.51        | 73.67        |
| Model C | 56.46        | 30.16        | 54.47        |
| Model D | 73.91        | 37.70        | 71.03        |
| Model E | <b>98.41</b> | <b>44.28</b> | <b>76.91</b> |
| Model F | 87.73        | 43.17        | 75.79        |

Algorithm 1 shows the steps for division of two numbers.

---

**Algorithm 1** Divide Number (*num1*, *num2*)

---

```

1: if num2 = 0 then
2:   return Unknown
3: end if
4: result = num1/num2
5: return result

```

---

Equations (3.1) to (3.3) demonstrate the usage of the align construct for defining multiple equations.

$$(w^T x_i - \gamma) \geq +1 \quad (3.1)$$

$$(w^T x_i - \gamma) \leq -1 \quad (3.2)$$

$$(w^T x_i - \gamma) = 0 \quad (3.3)$$

The formula for accuracy metric is given in (3.4), where True Positives (*TP*) are the correctly predicted positive cases, True Negatives (*TN*) are the correctly predicted negative cases, False Positives (*FP*) are the incorrectly predicted positive cases and False Negatives (*FN*) are the incorrectly predicted negative cases.

$$accuracy = \frac{TP + TN}{TP + FP + TN + FN} \quad (3.4)$$

You can also write in other languages by defining new font faces and uploading the *tff* file. For example, the following line is in Bengali: আমাদের সবাই একসাথে আগামী ভবিষ্যতের দিকে যাচ্ছি.



# **Chapter 4**

## **Results and Discussion**

## **4.1 Introduction**

The results section presents the findings obtained from the research methods. It offers a clear, organized presentation of raw data, often utilizing tables, figures, or graphs to enhance understanding. The section focuses on facts and avoids interpretation or analysis, letting the data speak for itself. Rules for this section demand precision and objectivity. Results must be reported accurately, and any trends or patterns should be highlighted without bias. Every piece of data presented should directly relate to the research questions, ensuring relevance. Clarity is paramount; the information should be presented logically, guiding readers through the findings in a comprehensible manner, setting the stage for the subsequent analysis and discussion.

## **4.2 Evaluation and Discussion**

The evaluation and discussion section interprets the results within the context of the research questions and existing literature. It critically analyzes the findings, explores their implications, and assesses their significance. This section evaluates the study's strengths and limitations, addressing unexpected results and explaining their possible causes. Rules for this section demand depth and insight. It must demonstrate a clear understanding of the research's implications, relating the findings to the broader field of study. Critical thinking is essential; the discussion should offer reasoned interpretations, considering alternative explanations.

# **Chapter 5**

## **Conclusion and Future Work**

## **5.1 Introduction**

The conclusion section provides a concise summary of the study's key findings, their significance, and their alignment with the research objectives. It offers closure, reaffirming the thesis statement and the contributions made to the field. Rules for this section require clarity and conciseness. It should restate the research problem and highlight the main outcomes, emphasizing their relevance. The conclusion must not introduce new ideas but rather synthesize existing ones, leaving a lasting impression on the reader. It should also address the study's limitations honestly. Lastly, the conclusion often suggests practical applications of the research and emphasizes its broader impact, leaving readers with a clear understanding of the study's significance.

## **5.2 Future Work**

The future works section outlines potential research directions and areas for further exploration based on the current study's findings and limitations. It suggests unresolved questions, methodologies that could enhance understanding, or applications that could arise from the research. The rules for this section necessitate insight and foresight. It should be specific, offering clear, well-defined suggestions for future researchers. Recommendations should be grounded in the study's conclusions and aimed at addressing its limitations or expanding upon its successes. Clarity is key; ideas should be presented logically, providing a roadmap for scholars interested in building upon the current research, encouraging a continuous scholarly discourse in the field.

# References

- [1] J. Smith, “A study on important topic,” *Journal of Important Research*, vol. 25, pp. 123–135, 2010.
- [2] S. Jones and M. Brown, “New approaches in important field,” in *Proceedings of the International Conference on Important Studies*, pp. 45–56, 2015.
- [3] O. Name, “Title of webpage.” <https://www.example.com>, 2020. Accessed: September 30, 2023.
- [4] R. Johnson, *Important Book on Various Topics*. City: Publishing Company, 2008.
- [5] E. Smith, *A Comprehensive Study on an Important Subject*. PhD thesis, University of Important Studies, 2005.