

**THESIS TITLE** (24pt.) (Front Cover)

**THESIS** (14pt.)

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE  
AWARD OF THE DEGREE OF (12pt.)

**MASTER OF TECHNOLOGY**(14pt.)  
IN  
**COMPUTER SCIENCE AND ENGINEERING**(14pt.)

**SUBMITTED BY**(12pt.)  
STUDENT NAME (14pt.)  
(U. R. No. 1000100) (14pt.)  
Month Year (14pt.)



**IKG PUNJAB TECHNICAL UNIVERSITY** (14pt.)  
**JALANDHAR (PUNJAB), INDIA**(14pt.)

**THESIS TITLE** (24pt.) (Front Cover)

**THESIS** (14pt.)

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE  
AWARD OF THE DEGREE OF (12pt.)

**MASTER OF TECHNOLOGY**(14pt.)

IN

**COMPUTER SCIENCE AND ENGINEERING**(14pt.)

**SUBMITTED BY**(12pt.)

STUDENT NAME (14pt.)

(U. R. No. 1000100) (14pt.)

Month, Year (14pt.)



[center, logo size 1.33” X 1.33”]

**GURU NANAK DEV ENGINEERING COLLEGE**(14pt.) **LUDHIANA –**

**141006**(14pt.)

# **GURU NANAK DEV ENGINEERING COLLEGE, LUDHIANA**

## **CANDIDATE'S DECLARATION**

I hereby certify that the work which is being presented in the thesis entitled "TITLE " by "NAME OF THE STUDENT" in partial fulfillment of requirements for the award of degree of M.Tech. (Branch) submitted in the Department of (Branch) at NAME OF THE INSTITUTE under PUNJAB TECHNICAL UNIVERSITY, JALANDHAR is an authentic record of my own work carried out during a period from \_ to \_\_ under the supervision of NAME OF SUPERVISOR (S). The matter presented in this thesis has not been submitted by me in any other University / Institute for the award of M.Tech Degree.

Signature of the Student  
URN

---

This is to certify that the above statement made by the candidate is correct to the best of my/our knowledge.

Signature of Supervisor  
Designation  
Department of CSE

Signature of Supervisor  
Designation  
Department of CSE

---

The M.Tech Viva Voce Examination of NAME OF CANDIDATE (URN) has been held on \_\_\_\_\_ and accepted.

Signature of Supervisor

Signature of Supervisor

Signature of External  
Examiner

Signature of H.O.D

## ABSTRACT

.....  
.....  
.....  
.....

*keywords: (4-5 max)*

:

## ACKNOWLEDGEMENT

The authors are highly grateful to the Dr. Sehijpal Singh, Principal, Guru Nanak Dev Engineering College (GNDEC), Ludhiana, for providing this opportunity to carry out the present thesis/work

The author would like to express a deep sense of gratitude and thanks profusely to Dr. KiranJyoti, Associate Professor and Head, Department of Computer Science and Engineering, GNDEC Ludhiana has been of great help in carrying the present work and is acknowledged with reverential thanks.

The constant guidance and encouragement received from Dr./Prof. ...., Designation, Department of Computer Science and Engineering, GNDEC, Ludhiana as Supervisor(s). Without the wise counsel and able guidance, it would have been impossible to complete the thesis in this manner.

The author express gratitude to Department Research Committee members and PG-coordinator of Computer Science and Engineering Department for their intellectual support throughout the course of this work.

Finally, the authors are indebted to all whosoever have contributed in this thesis work and friendly stay at GNDEC.

Signature of Student

## LIST OF TABLES

Table Number	Table Description	Page Number
Table 1.1	Comparison of	10
Table 1.2	Survey of	10

\*Row size 1.25 At least, line spacing 1.5, before and after Opt

## LIST OF FIGURES

Figure Number	Figure Description	Page Number
Figure 3.1	Flow chart of	25
Figure 3.2	Phase Diagram	25

\*Row size 1.25 At least, line spacing 1.5, before and after Opt

## **ABBREVIATIONS**

ML  
AI

Machine Learning  
Artificial Intelligence

- 1.** *All abbreviations used in thesis work should be mention here.*
- 2.** *All abbreviations should be in ALPHABETICAL ORDER.*



# TABLE OF CONTENTS

<i>Certificate</i>		<i>i</i>
<i>Abstract</i>		<i>ii</i>
<i>Acknowledgement</i>		<i>iv</i>
<i>List of Figures</i>		<i>v</i>
<i>List of Tables</i>		<i>vi</i>
<i>Abbreviations</i>		<i>vii</i>
<i>Table of Contents</i>		<i>viii</i>
<b>CHAPTER 1 :</b>	<b>INTRODUCTION.....</b>	<b>1-5</b>
	1.1 Heading 1	2
	1.2 Heading 1	4
<b>CHAPTER 2 :</b>	<b>LITERATURE REVIEW .....</b>	<b>6-25</b>
	2.1 Survey of Literature	6
	2.2 Comparative Analysis of Literature	21
	2.2 Research Gaps	24
<b>CHAPTER 3 :</b>	<b>PROBLEM FORMULATION AND PRESENT WORK....</b>	<b>25-45</b>
	3.1 Problem Formulation	25
	3.2 Objectives	26
	3.3 Proposed Methodology	27
<b>CHAPTER 4 :</b>	<b>RESULTS AND DISCUSSION .....</b>	<b>46-56</b>
	4.1 Platform used (in brief)	46
	4.2 Performance Metrics	47
	4.3 Results and Discussion	48
<b>CHAPTER 5 :</b>	<b>CONCLUSION AND FUTURESCOPE .....</b>	<b>49-50</b>
	5.1 Conclusion	49
	5.2 Future Scope	50
<b>REFERENCES</b>		<b>49-56</b>
<b>APPENDIX A (if any)</b>		<b>57</b>

## CHAPTER 1 (TNR 14pt)

### INTRODUCTION (TNR 14pt)

#### 1.1 Introduction [TNR, 14 pt, Bold]

**Normal Body Text:** Font Size 12, Times New Roman, 1.5 line Spacing, Justified. 6 point above and below paragraph spacing

Contents starts here without indentation in next paragraph-1....

Contents starts here without indentation in next paragraph-2....

#### 1.2 Heading [TNR, 14 pt, Bold]

**Normal Body Text:** Font Size 12, Times New Roman, 1.5 line Spacing, Justified. 6 point above and below paragraph spacing

Contents starts here without indentation in next paragraph-1....

Contents starts here without indentation in next paragraph-2....

##### 1.2.1 Sub Heading [TNR, 12 pt, Bold] :

**Normal Body Text:** Font Size 12, Times New Roman, 1.5 line Spacing, Justified. 6 point above and below paragraph spacing

The further classification is as follows:

a) *Heading* [TNR 12 pt italic]:

Text starts here, Font Size 12, Times New Roman, 1.5-line Spacing, Justified.

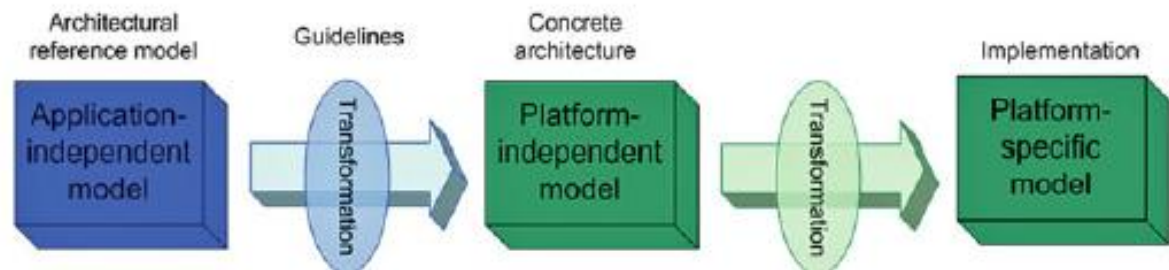
6 point above and below paragraph spacing

- The
- ....

**Table 1.1:** Various Techniques for (TNR 10pt, Table 1.1: Bold, line spacing before and after 0)

Author(s)	Techniques	Data Sets	Remarks

\*example of Table entries



**Figure 1.1:** Derivation of implementations (platform-specific models) from an architectural reference Model (TNR 10pt, Figure 1.1: Bold, line spacing before and after 0)

*\*Table 1.1 and Figure 1.1 must be mention in the text.*

*\* Also Mention the Reference in Table/ Figure wherever applicable*

## CHAPTER 2

### LITERATURE REVIEW

#### 2.1 Heading (if any) [TNR, 14 pt, Bold]

**Normal Body Text:** Font Size 12, Times New Roman, 1.5-lineSpacing, Justified. 6 point above and below paragraph spacing

#### REFERENCES SHOULD BE CHRONOLOGICAL ORDER

##### (Single Author)

Das, 2024, presented another approach.....[20].

##### (Two Authors)

Gupta and Singh, 2020, presented another approach.....[21].

##### (More than two Authors)

Singh et. al, 2019 presented a new approach .....  
..... [21].

## CHAPTER 3

### PROBLEM FORMULATION AND PRESENT WORK

#### 3.1

*A minimum of 15-35 pages must be included in the chapter to describe the methodology*

## **CHAPTER 4**

### **RESULTS AND DISCUSSION**

#### **4.1**

## **CHAPTER 5**

### **CONCLUSION AND FUTURESCOPE**

#### **5.1 Conclusion**

#### **5.2 Future Scope**

## REFERENCES

- [1] Arnau-González, Pablo, Miguel Arevalillo-Herráez, Romina Albornoz-De Luise, and David Arnau. 2023. "A Methodological Approach To Enable Natural Language Interaction in an Intelligent Tutoring System". *Computer Speech & Language*: 81: 101516.  
<https://doi.org/10.1016/j.csl.2023.101516>.
- [2] Feng, Lin, Lu-Yao Liu, Sheng-Lan Liu, Jian Zhou, Han-Qing Yang, and Jie Yang. 2023. "Multimodal Speech Emotion Recognition Based on Multi-Scale MFCCs and Multi-View Attention Mechanism". *Multimedia Tools and Applications* 82:289178935.  
<https://doi.org/10.1007/s11042-023-14600-0>.



## **SOME OTHER IMPORTANT POINTS**

### **PRODUCTION FEATURES**

- The maximum number of pages of the Report should be preferably between **35-60** pages.
- **Synopsis Report: Methodology should contain brief discussion and flow chart of work. No results and conclusion**
- **Mid Term Report:** Detailed Methodology and results should be of Report.

### **Abstract**

1. The abstract of the report should be limited to 200-300 words. **( must be added in FINAL REPORT ONLY)**
2. A list of keywords should followed in the end of the abstract.

### **Paper Size**

3. The standard size of paper of a Report is A4 paper size is a widely used standard, measuring 210 millimeters by 297 millimeters (8.27 inches by 11.69 inches).
4. Oversized figures and tables, if any, should be reduced to fit with the size of thereport but the reduction should not be so drastic as to impair clarity of their contents. One may also fold these pages to fit with the report size.

### **Table and Figure**

5. The *minimum font size of materials within a table or a figure* can be 8 point, however
6. Table caption [TNR 12, center] should be written **ABOVE the prescribed Table in the text.**
7. Figure Caption [TNR 12, center] should be written **BELOW the prescribed Figure in the text**

### **Single-Sided**

8. The report should be printed on one side of the paper

### **Page Numbering**

9. Page numbers for the prefacing materials (Certificate, Abstract,etc..) of the report shall be in small Roman numerals and should be centered at the bottom of the pages.
10. Page numbers for the body of the report should be in Arabic numerals and

should be centered at the bottom of the pages. The pagination should start with the first page of Chapter 1 and should continue throughout the text (including tables, figures, and appendices)

## Font

11. The preferred font size of the text in the report is 12 point.
12. The preferred font type is Times New Roman.
13. Heading1 (Bold,16pt)/ Heading 2 (Bold, 14 pt)/ Heading 3 (Bold, 12 pt)

## Margins

14. A margin of 3.75 cm (1½ inch) is to be given on the binding edge while on the other sides it is to be 2.5 cm (1 inch). The text of the report, including headings, figures, tables, and notes, but excluding page numbers, must be accommodated within the page area.

## Line Spacing

15. The line spacing in the main text must be between 1.5 line spacing. *Single linespacing should be given for abstract, declaration, figure captions, table titles, figure legends, footnotes, and references.*

## References

16. IEEE style to be followed.
17. Use any reference manager tool like **Mendeley/ Zotero/** etc.
18. **Minimum 60-70 references should be added in Report.**

## Appendices

19. Each appendix should be identified as Appendix A, Appendix B, etc.
20. It should also have a title.
21. The appendices and their titles should be listed in the Contents.