

FULL TITLE OF YOUR THESIS HERE

A THESIS

Submitted towards the partial fulfilment of the
requirements for the award of the degree of

INTEGRATED MASTER OF TECHNOLOGY

in

GEOPHYSICAL TECHNOLOGY

By

Your Full Name

XXXXXXXXXX

Under the supervision of

Prof. Full Name



**DEPARTMENT OF EARTH SCIENCES
INDIAN INSTITUTE OF TECHNOLOGY, ROORKEE
ROORKEE – 247667, INDIA**

May 2026

DECLARATION OF AUTHORSHIP

I hereby certify that the work presented in this thesis report, “**Full Title of Your Thesis Here**” submitted to the Department of Earth Sciences at the Indian Institute of Technology, Roorkee in partial fulfilment of the requirements for the award of the degree of **Integrated Master of Technology in Geophysical Technology**, is an authentic record of the work I did from June 2025 to May 2026 under the guidance of **Prof. Full Name**, Department of Earth Sciences, Indian Institute of Technology, Roorkee.

The information in this report has not been submitted for the award of any other degree.

Date: May 2026

Your Full Name (XXXXXXXXXX)

Place: IIT Roorkee

Integrated Master of Technology

Department of Earth Sciences

IIT Roorkee

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

Date: May 2026

Prof. Full Name

Place: IIT Roorkee

Associate Professor

Department of Earth Sciences

IIT Roorkee

ACKNOWLEDGEMENTS

I would like to thank my supervisor, Prof. Full Name, Associate Professor in the Department of Earth Sciences at the Indian Institute of Technology, Roorkee, for their invaluable guidance, support, and encouragement throughout this thesis.

Your Full Name

Roorkee, India

ABSTRACT

[Write your abstract here. Summarise the research context, the specific problem addressed, the methodology employed, the principal findings, and their significance. Better to keep it 1 page only]

Keywords: keyword1, keyword2, keyword3, keyword4, keyword5.

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LIST OF SYMBOLS AND ABBREVIATIONS

Symbols

f	Temporal frequency [Hz]
t	Time [s]
T	Total record length [s]
v	Wave propagation velocity [m/s]
z	Depth [m]
α	[replace with your symbol and its description]
λ	Wavelength [m]

Abbreviations

RMS	Root mean square
SNR	Signal-to-noise ratio

CHAPTER 1

INTRODUCTION

Distributed acoustic sensing (DAS) converts a standard optical fibre into a continuous array of seismic receivers, providing dense spatial coverage with no downhole electronics (Willis, 2022).
[Continue your introductory paragraph here — describe the technology, its importance, and the current state of practice.]

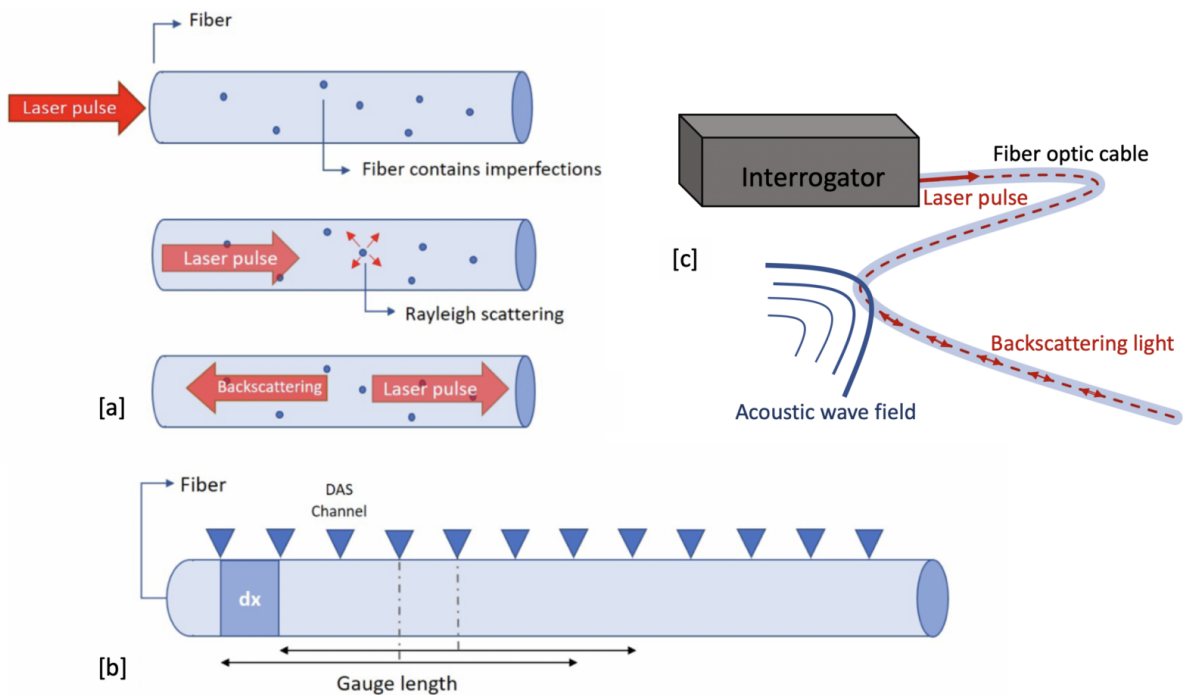


Figure 1: Operating principle of a DAS system. A laser pulse propagates through the fibre and generates Rayleigh backscatter; the phase difference between two points separated by the gauge length GL recovers the local axial strain continuously along the fibre. Adapted from Nap and Tuinstra (2023).

[Don't change the section names/headings in this chapter.]

1.1 Motivation

[Write the motivation for your thesis here.]

1.2 Problem Statement

[State the specific research problem clearly here.]

1.3 Objectives

The objectives of this thesis are as follows.

1. Objective 1 — state clearly and specifically.
2. Objective 2.
3. Objective 3.

1.4 Organisation of the Thesis

Chapter 2 provides the background study and a literature review.

Chapter 3 describes the methodology.

Chapter 4 presents the results and discussion.

Chapter 5 draws the conclusions and outlines limitations and future work.

Appendices provide supporting material for example - derivations, etc. (if required).

CHAPTER 2

LITERATURE SURVEY AND BACKGROUND STUDIES

[Section are made as examples — make your own sections/subsections headings as per your need.]

2.1 Background

[Write the background study here.]

2.2 Review of Prior Work

[Write the literature review here.]

2.2.1 [Sub-topic 1]

[Write sub-topic review here.]

2.2.2 [Sub-topic 2]

[Write sub-topic review here.]

2.3 Research Gaps

[Identify and explain the gaps that your thesis addresses.]

CHAPTER 3

MATERIALS AND METHODS

[Section are made as examples — make your own sections/subsections headings as per your need.]

3.1 Theoretical Framework

[Write the theoretical framework here.]

3.2 Model Description

[Describe your model or dataset here.]

Table 1: Example table: model parameters used in this study.

Parameter	Value	Unit
Parameter 1	100	m
Parameter 2	3.5	km/s
Parameter 3	50	Hz
Parameter 4	0.01	–

3.3 Methods

[Describe your workflow and processing steps here.]

3.3.1 [Step / Method 1]

[Write here.]

3.3.2 [Step / Method 2]

[Write here.]

3.4 Performance Metrics

[Define your evaluation metrics here.]

CHAPTER 4

RESULTS AND DISCUSSIONS

[Section are made as examples — make your own sections/subsections headings as per your need.]

4.1 [First Result / Analysis]

[Write your first result here.]

4.2 [Second Result / Analysis]

[Write your second result here.]

4.2.1 [Sub-result]

[Write here.]

4.3 [Comparison / Validation]

[Write your validation or comparison here.]

4.4 Discussion

[Write your overall discussion here.]

CHAPTER 5

CONCLUSIONS

[Section are made as examples — make your own sections/subsections headings as per your need.]

5.1 Summary of Findings

[Summarise your key findings here, linked to each objective.]

5.2 Contributions

[List the original contributions of your thesis.]

5.3 Limitations

[Describe the limitations of your study here.]

5.4 Future Work

[Outline directions for future research here.]

REFERENCES

- Nap, A., and K. Tuinstra, 2023, What is distributed acoustic sensing?: EGU Seismology Blog, European Geosciences Union. (Accessed: May 2026).
- Willis, M. E., 2022, Distributed acoustic sensing for seismic measurements — what Geophysicists and Engineers need to know: Society of Exploration Geophysicists. SEG Distinguished Instructor Series, No. 25.

APPENDIX A

[TITLE OF APPENDIX A]

[Write Appendix A content here.]

A.1 [Section within Appendix A]

[Write here.]

APPENDIX B

[TITLE OF APPENDIX B]

[Write Appendix B content here.]

STUDENT AI USE DISCLOSURE FORM

Artificial Intelligence Usage Declaration

SECTION A: STUDENT INFORMATION

Full Name: Your Full Name

Enrolment No.: XXXXXXXXXX

Department: Earth Sciences

Programme: Integrated Master of Technology **Semester / Year:** 10th Semester / 5th Year

Supervisor Name: Prof. Full Name

Thesis Title: Full Title of Your Thesis Here

Date: May 12, 2026

SECTION B: NATURE OF AI USE

Artificial Intelligence (AI) tools were used in the following capacities during the preparation of this work:

Research & Content

- | | |
|--------------------------|---|
| <input type="checkbox"/> | Literature review / Background research |
| <input type="checkbox"/> | Idea generation / Brainstorming |
| <input type="checkbox"/> | Summarising research papers or articles |

Writing & Language

- | | |
|--------------------------|--------------------------------------|
| <input type="checkbox"/> | Drafting or writing portions of text |
| <input type="checkbox"/> | Editing or proofreading |
| <input type="checkbox"/> | Translation of Language |

Technical & Analytical

- | | |
|--------------------------|---|
| <input type="checkbox"/> | Data collection or analysis |
| <input type="checkbox"/> | Generating code |
| <input type="checkbox"/> | Statistical interpretation or modelling |
| <input type="checkbox"/> | Creating figures, diagrams, or images |
| <input type="checkbox"/> | Mathematical Proofs or Algorithms |

Other

- | | |
|--------------------------|------------------------|
| <input type="checkbox"/> | Other — describe below |
|--------------------------|------------------------|

Description:

SECTION C: DECLARATION & SIGNATURES

I hereby declare that:

1. The information provided in this form is accurate and complete to the best of my knowledge.
2. All AI-generated or AI-assisted content has been appropriately reviewed, verified, and acknowledged.
3. The use of AI tools complies with the institute's AI Use Policy and academic integrity guidelines.
4. I take full intellectual responsibility for the final submitted work.
5. I understand that false or incomplete disclosure may constitute academic misconduct.

Student Signature

Name: Your Full Name

Designation: M.Tech Student

Signature:

Date: May 12, 2026

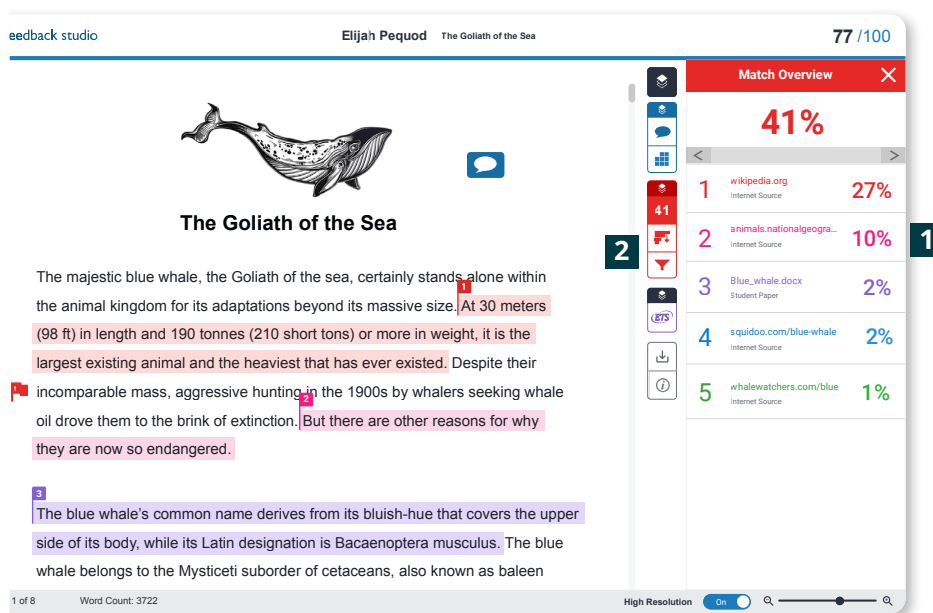
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A student guide

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...my score is too low? This means that too little of your paper comes from other sources.	<ul style="list-style-type: none"> • Balance your own writing with the information that you use from sources. • Determine when it would be most appropriate to quote directly from a source or paraphrase information to add research-based support for your claim. • Properly cite each source that you reference.
...large sections of my paper come from a source? This means that too much of your paper comes from other sources.	<ul style="list-style-type: none"> • Include your own words in your writing where necessary. • Select only the most important part of each quote, rather than including an entire paragraph that includes extraneous information. • Explain each quote that you reference, offering an analysis of how it applies to your claim.
...large sections of my paper are only my words? This means that too little of your paper comes from other sources.	<ul style="list-style-type: none"> • Include research-based information that can support your claim. • Properly cite each source that you reference.