

Title of Thesis/Capstone Project

*Thesis submitted in partial fulfillment of the
requirements for the degree*

of

Bachelor of Science in Computer Science and Engineering

by

**First Author
243014000**

Under the supervision of

Supervisor's Name



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

UNIVERSITY OF LIBERAL ARTS BANGLADESH

FALL 2028

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DECLARATION

Project Title Title of Thesis/Capstone Project
Author *First Author*
Student ID 243014000
Supervisor Supervisor's Name

I declare that this thesis entitled *Title of Thesis/Capstone Project* is the result of my own work except as cited in the references. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.

First Author
243014000

Department of Computer Science and Engineering
University of Liberal Arts Bangladesh

Date: February 02, 2029



Department of Computer Science and Engineering
University of Liberal Arts Bangladesh
Mohammadpur, Dhaka - 1207

CERTIFICATE

This is to certify that the thesis entitled **Title of Thesis/Capstone Project**, submitted by **First Author** (Student ID: 243014000) an undergraduate student of the **Department of Computer Science and Engineering** has been examined. Upon recommendation by the examination committee, we hereby accord our approval of it as the presented work and submitted report fulfill the requirements for its acceptance in partial fulfillment for the degree of *Bachelor of Science in Computer Science and Engineering*.

Supervisor's Name
Supervisor's Position

Department of Computer Science and Engineering
University of Liberal Arts Bangladesh

Dr. Syed Akhter Hossain
Professor and Head

Department of Computer Science and Engineering
University of Liberal Arts Bangladesh

Place: Dhaka

Date: February 02, 2029

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I am greatly indebted to my honorable teachers of the Department of Computer Science and Engineering at the University of Liberal Arts Bangladesh who taught me during the course of my study. Without any doubt, their teaching and guidance have completely transformed me to a person that I am today.

I am extremely thankful to my parents for their unconditional love, endless prayers, caring and immense sacrifices for educating and preparing me for my future. I would like to say thanks to my friends and relatives for their kind support and care.

Finally, I would like to thank all the people who have supported me to complete the project work directly or indirectly.

First Author

University of Liberal Arts Bangladesh

Date: February 02, 2029

Dedicated to
abc
– *First Author*

ABSTRACT

Write abstract here.

Keywords: keyword1, keyword2

Contents

1	Introduction	1
1.1	Historical Observations	2
1.2	Climate of Mars	3
2	How to Use This Template?	4
2.1	Scenario 1: A Student Doing A Thesis	5
2.1.1	Setting Thesis Particulars	6
2.1.2	Setting Author’s Particulars	7
2.2	Scenario 2: A Group Doing A Capstone Project	8
2.2.1	Setting Report Particulars	9
2.2.2	Setting Authors’ Particulars	9
2.3	Abstract and Keywords	12
2.4	Adding a New Chapter	13
2.4.1	Customizing Chapter Title	14
2.4.2	Including a Chapter in Your Report	14
2.5	Adding Equations	14
2.6	Adding a Section	15
2.6.1	Adding a Subsection	16
2.6.1.1	Adding a Sub-subsection	16
2.7	Adding a Figure	16
2.8	Adding a Table	19
2.9	Citing Articles	20
2.9.1	Citing a Web Document	22
2.10	Summary	22
3	Proposed Method	23

4	Experimental Results	24
5	Conclusion	25
	Bibliography	26

List of Figures

1.1	Picture of the Planet Mars in natural color captured in 2007.	1
1.2	Galileo Galilei, first person to see Mars via telescope in 1610.	2
2.1	Gaining access to the <i>main.tex</i> file from the left side panel of Overleaf for doing initial configurations of this template.	5
2.2	Write an Abstract of your work in the <i>abstract.tex</i> file accessible from the left side panel of Overleaf.	12
2.3	Create a new chapter from the left side panel of Overleaf of this template.	13
2.4	Adding a new figure in Images folder from the left side panel of Overleaf of this template.	17
2.5	Einstein's official portrait after receiving the 1921 Nobel Prize in Physics.	18
2.6	BibTeX is readily available in Google Scholar.	20
2.7	Adding a new BibTeX entry in <i>reference.bib</i> from the left side panel of Overleaf of this template.	21

List of Tables

1.1	Surface temperature range of planet Mars in different measuring scale.	3
2.1	Data collected from four students.	19

Chapter 1

Introduction

Mars is the fourth planet from the Sun and the second-smallest planet in the Solar System, being larger than only Mercury. In English, Mars carries the name of the Roman god of war and is often referred to as the "Red Planet". The latter refers to the effect of the iron oxide prevalent on Mars's surface, which gives it a reddish appearance distinctive among the astronomical bodies visible to the naked eye. Mars is a terrestrial planet with a thin atmosphere, with surface features reminiscent of the impact craters of the Moon and the valleys, deserts and polar ice caps of Earth. Figure 1.1 shows a photo of Planet Mars.

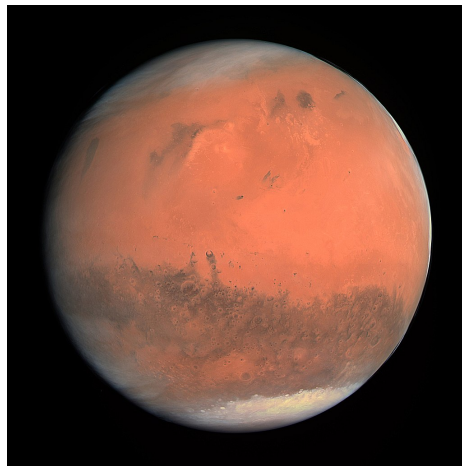


Figure 1.1: Picture of the Planet Mars in natural color captured in 2007.

The orbit of every planet is an ellipse with the Sun at one of the two foci. Mathematically, an ellipse can be represented by the Eq. (1.1).

$$r = \frac{p}{1 + \varepsilon \cos \theta} \quad (1.1)$$

where p is the semi-latus rectum, ε is the eccentricity of the ellipse, r is the distance from the Sun to the planet, and θ is the angle to the planet's current position from its closest approach, as seen from the Sun. So (r, θ) are polar coordinates.

For an ellipse $0 < \varepsilon < 1$; in the limiting case $\varepsilon = 0$, the orbit is a circle with the Sun at the centre (i.e. where there is zero eccentricity).

1.1 Historical Observations

During the seventeenth century, Tycho Brahe measured the diurnal parallax of Mars that Johannes Kepler used to make a preliminary calculation of the relative distance to the planet. When the telescope became available, the diurnal parallax of Mars was again measured in an effort to determine the Sun-Earth distance. This was first performed by Giovanni Domenico Cassini in 1672. The early parallax measurements were hampered by the quality of the instruments. The only occultation of Mars by Venus observed was that of 13 October 1590, seen by Michael Maestlin at Heidelberg. In 1610, Mars was viewed by Italian astronomer Galileo Galilei, who was first to see it via telescope. A portrait of Galileo Galilei is depicted in Fig 1.2. The first person to draw a map of Mars that displayed any terrain features was the Dutch astronomer Christiaan Huygens.

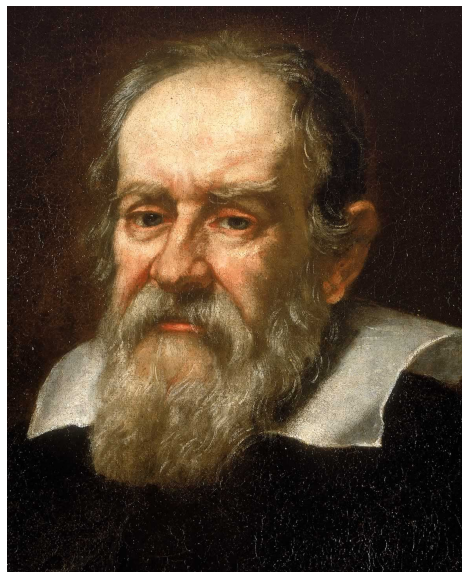


Figure 1.2: Galileo Galilei, first person to see Mars via telescope in 1610.

1.2 Climate of Mars

The climate of Mars has been a topic of scientific curiosity for centuries, in part because it is the only terrestrial planet whose surface can be directly observed in detail from the Earth with help from a telescope.

Although Mars is smaller than the Earth, 11% of Earth's mass, and 50% farther from the Sun than the Earth, its climate has important similarities, such as the presence of polar ice caps, seasonal changes and observable weather patterns. It has attracted sustained study from planetologists and climatologists. While Mars' climate has similarities to Earth's, including periodic ice ages, there are also important differences, such as much lower thermal inertia. Mars' atmosphere has a scale height of approximately 11 km (36,000 ft), 60% greater than that on Earth. The climate is of considerable relevance to the question of whether life is or was present on the planet. The climate briefly received more interest in the news due to NASA measurements indicating increased sublimation of one near-polar region leading to some popular press speculation that Mars was undergoing a parallel bout of global warming, although Mars' average temperature has actually cooled in recent decades, and the polar caps themselves are growing. Table 1.1 show the surface temperature range of planet Mars in different measuring scale.

Table 1.1: Surface temperature range of planet Mars in different measuring scale.

Surface temp.	min	mean	max
Kelvin	130 K	210 K	308 K
Celsius	-143 °C	-63 °C	35 °C
Fahrenheit	-226 °F	-82 °F	95 °F

Chapter 2

How to Use This Template?

Document preparing WYSIWYG applications like Microsoft Word are general typing tools that are not friendly to the needs of scientific writing. It is difficult to create scientific writing components, such as equations, figures, citations using such generic applications. Although there are tools and plugins that can be used with those applications there is an aesthetic issue which can only be mitigated using a typesetting tool, such as \LaTeX . Besides, indexing and referencing are inherently easy to produce which helps the authors to concentrate more on writing than formatting.

Concretely, there are a few good reasons why \LaTeX should be used for academic writing.

1. \LaTeX allows you to typeset your thesis/capstone project report beautifully. It helps to structure the document, equations, citations, indexing etc and producing high-quality output.
2. Editing a \LaTeX document is easy. A part of the document can be easily moved and rested in the document allowing greater flexibility with the document without disturbing the typesetting.
3. Document reformatting using \LaTeX is super easy. Changing fonts, margins, citation styles, rearranging can be done in almost no time.
4. The scientific publishing industry has built a stable infrastructure around \LaTeX .
5. \LaTeX is free. Besides, the strong presence of a large \LaTeX community in WWW to help you in producing high-quality documents.

If you are new to \LaTeX , you are highly encouraged to read and practice the following instructions carefully before commencing your thesis/capstone project report writing.

2.1 Scenario 1: A Student Doing A Thesis

A student of the Department of Computer Science and Engineering at the University of Liberal Arts Bangladesh named *Afsin Fairuz*, Student ID 243014007, is working alone for writing her thesis under the supervision of Associate Professor Dr. Mohammad Shahriar Rahman. The title of her thesis is “Blockchain Based Food Distribution in the Planet Mars.” *Afsin* has already conducted her research and got her data ready for writing her thesis. She plans to submit the thesis in Fall 2028. The department of Computer Science and Engineering has declared that the thesis submission date is February 02, 2029.

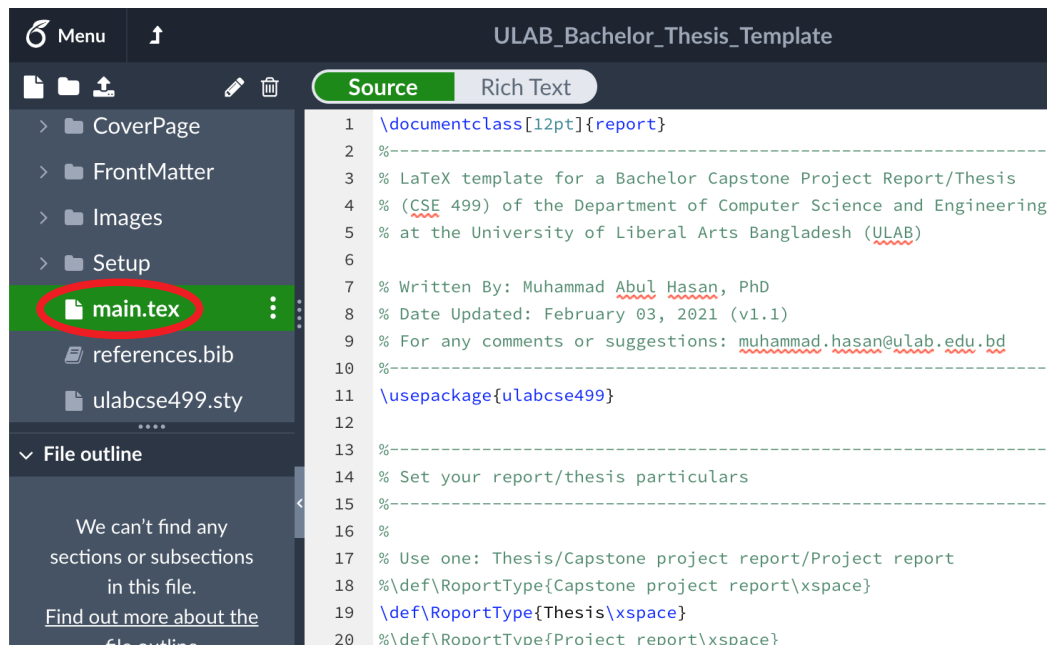


Figure 2.1: Gaining access to the *main.tex* file from the left side panel of Overleaf for doing initial configurations of this template.

Considering the scenario above, *Afsin* needs to do the initial configuration of this template. In order to do so, she has to click on the *main.tex* file as shown in the

Figure 2.1. Once *main.tex* is open, she should do the initial configurations as shown in the following two subsections.

2.1.1 Setting Thesis Particulars

Since *Afsin* is doing a thesis, she should declare it at the beginning. Thus in the template, she uses the `\def\ReportType{Thesis\xspace}` primitive and she comments out the other two `\def\ReportType{... \xspace}` primitives to make sure the type of her report is only Thesis. Moreover, the following primitives are to be filled according to the requirements.

- `\def\ReportTitle{... \xspace}`,
- `\def\Supervisor{... \xspace}`,
- `\def\SupervisorPosition{... \xspace}`,
- `\def\reportSubmissionDate{...}`, and
- `\def\reportSubmissionTerm{...}`.

After setting up the thesis particulars, the relevant part of the *main.tex* would look as follows.

```
1 %-----
2 % Set your report/thesis particulars
3 %-----
4 %
5 % Use one: Thesis/Capstone project report/Project report
6 %\def\ReportType{Capstone project report\xspace}
7 \def\ReportType{Thesis\xspace}
8 %\def\ReportType{Project report\xspace}
9 %
10 \def\ReportTitle{Blockchain Based Food Distribution in the
11 Planet Mars\xspace}
12 %
13 \def\Supervisor{Dr. Mohammad Shahriar Rahman\xspace}
14 \def\SupervisorPosition{Associate Professor\xspace}
15 %
16 %\def\reportSubmissionDate{\today}
17 \def\reportSubmissionDate{February 02, 2029}
18 \def\reportSubmissionTerm{Fall 2028}
```

2.1.2 Setting Author's Particulars

Based on the description provided in Subsection 2.1, there is no other member-s/authors in the group except *Afsin*. That means, she is the first author of her Thesis. *Afsin* loves her parents, so she dedicates her thesis to her Mother *Mansura Akhter* and Father *Manzurul Haque*. She wants to write the following message on the “Dedication” page of the thesis.

To my loving mother
Mansura Akhter
and father
Manzurul Haque


So, *Afsin* would configure the following primitives as the requirements.

- `\def\numberOfAuthors{ }`
- `\def\firstAuthor{... \xspace}`
- `\def\firstAuthorID{... \xspace}`
- `\def\firstAuthorDedication{...}`

After inserting the author's particulars, the group members particular part of the *main.tex* would look as follows.

```
1 %-----  
2 % Set your group members particulars  
3 %-----  
4 %  
5 \def\numberOfAuthors{1} % write 1, 2 or 3 (depends on group)  
6 %  
7 \def\firstAuthor{Afsin Fairuz\xspace}  
8 \def\firstAuthorID{243014007\xspace}  
9 \def\firstAuthorDedication{To my loving mother\\ \textit{  
10 Mansura Akhter} \\ and father \\ \textit{Manzurul Haque}}
```

Please note that *Afsin* does not have to fill up the remaining authors' information although there is a provision to input more authors' information. She can leave them as it will not create any problem in rendering her document.

Now *Afsin* is ready to recompile the document. In order to do that, she finds the  button of Overleaf and click on it. Once recompilation is done, she finds that all the necessary changes are made automatically in the following pages.

1. Front page
2. Copyright page
3. Declaration page
4. Certificate page
5. Acknowledgements page
6. Dedication page, and
7. Cover page

If you are doing a thesis alone, follow *Afsin* to configure the template according to the requirement. After configuration, you will be able to see the dynamically produced skeleton of your thesis too. Try it yourself! If you have done it successfully, Congratulations to you!

2.2 Scenario 2: A Group Doing A Capstone Project

Three students of the Department of Computer Science and Engineering at the University of Liberal Arts Bangladesh formed a group to do a Capstone Project under the supervision of Senior Lecturer *Bijan Paul*. Names of the students are *Safwan Sadid*, *Aiyan Faiyaz*, and *Aleena Ramin* and their Student IDs are 243014008, 243014027 and 243014033 respectively. The group has decided the title of their project is “Design and Development of a Robot for Tree Plantation on Planet Mars.” The group members have already designed and implemented their project, and now they are ready to write the project report. Upon approval of their supervisor, they are planning to submit the report by the end of Fall 2028. The Department of Computer Science and Engineering has declared February 02, 2029 is the capstone project submission date.

The group starts writing their project report doing the initial configuration of this template. In order to do so, first, they click on the *main.tex* file as shown in Figure 2.1. Once *main.tex* is open, they do the initial configurations of the template as shown in the following two subsections.

2.2.1 Setting Report Particulars

Since the group is doing a Capstone project, they use the `\def\ReportType{Capstone Project\xspace}` primitive to make sure the type of their report is a Capstone project report. Further, the following primitives are filled accordingly.

- `\def\ReportTitle{...\xspace}`,
- `\def\Supervisor{...\xspace}`,
- `\def\SupervisorPosition{...\xspace}`,
- `\def\reportSubmissionDate{...}`, and
- `\def\reportSubmissionTerm{...}`.

After configuring the capstone project report particulars, the relevant part of the *main.tex* would look as follows.

```
1 %-----
2 % Set your report/thesis particulars
3 %-----
4 %
5 % Use one: Thesis/Capstone project report/Project report
6 \def\ReportType{Capstone project report\xspace}
7 %\def\ReportType{Thesis\xspace}
8 %\def\ReportType{Project report\xspace}
9 %
10 \def\ReportTitle{Design and Development of a Robot for Tree
11 Plantation on Planet Mars\xspace}
12 %
13 \def\Supervisor{Bijan Paul\xspace}
14 \def\SupervisorPosition{Senior Lecturer\xspace}
15 %
16 %\def\reportSubmissionDate{\today}
17 \def\reportSubmissionDate{February 02, 2029}
18 \def\reportSubmissionTerm{Fall 2028}
```

2.2.2 Setting Authors' Particulars

As described in Subsection 2.2, the group is consisting of three students who are working towards a successful completion of a capstone project. So, all of them is

considered as authors. Based on the contributions made to the project, they come up with an order in the authors' list.

Safwan, Aiyan, and Aleena – all of them decide to dedicate their capstone project report to their favourite persons. Safwan wants to dedicate the work to his parents. The dedication message he wants to write is as follows.

To my beloved mother
Munjifa Hasan
and father
M Shohorab Hossain

Aiyan, on the other hand, loves his grandmother a lot so he decides to dedicate his work to his grandmother. The message goes as follows.

To my grandmother
Mahmuda Begum

Aleena has been influenced a lot by her mentor, and her sister. So, she decides to dedicate the work to them. The messages she wants to include in the report is as follows.

I would like to dedicate my
work to my mentor
M. Tafazzal Hossain
and my sister
Samara Raniyah

Accordingly, the team configures the following primitives as the requirements.

- `\def\numberOfAuthors{ }`
- `\def\firstAuthor{...\xspace}`
- `\def\firstAuthorID{...\xspace}`
- `\def\firstAuthorDedication{...}`
- `\def\secondAuthor{...\xspace}`
- `\def\secondAuthorID{...\xspace}`
- `\def\secondAuthorDedication{...}`
- `\def\thirdAuthor{...\xspace}`


- `\def\thirdAuthorID{... \xspace}`
- `\def\thirdAuthorDedication{...}`

After inserting the authors' particulars, the group members particular part of the *main.tex* would look as follows.

```

1  %-----
2  % Set your group members particulars
3  %-----
4  %
5  \def\numberOfAuthors{3} % write 1, 2 or 3 (depends on group)
6  %
7  \def\firstAuthor{Safwan Sadid\xspace}
8  \def\firstAuthorID{243014008\xspace}
9  \def\firstAuthorDedication{To my beloved mother\\ \textit{
10 Munjifa Hasan} \\ and father \\ \textit{M Shohorab Hossain}}
11 %
12 \def\secondAuthor{Aiyan Faiyaz\xspace}
13 \def\secondAuthorID{243014027\xspace}
14 \def\secondAuthorDedication{To my grandmother\\
15 \textit{Mahmuda Begum}}
16 %
17 \def\thirdAuthor{Aleena Ramin\xspace}
18 \def\thirdAuthorID{243014033\xspace}
19 \def\thirdAuthorDedication{I would like to dedicate my work to
20 my mentor\\ \textit{M. Tafazzal Hossain} \\ and my sister \\
21 \textit{Samara Raniyah}}

```

Now the team is ready to recompile the document. In order to do that, they click on the  button to render the document. Once recompilation is done, they found the necessary changes according to the above configurations on the following pages.

1. Front page
2. Copyright page
3. Declaration page
4. Certificate page
5. Acknowledgements page

6. Dedication page, and

7. Cover page

If your team consists of three members and the team is doing a capstone project then follow the above steps to complete the initial configurations. If you have done it successfully, to all three of you - Kudos!

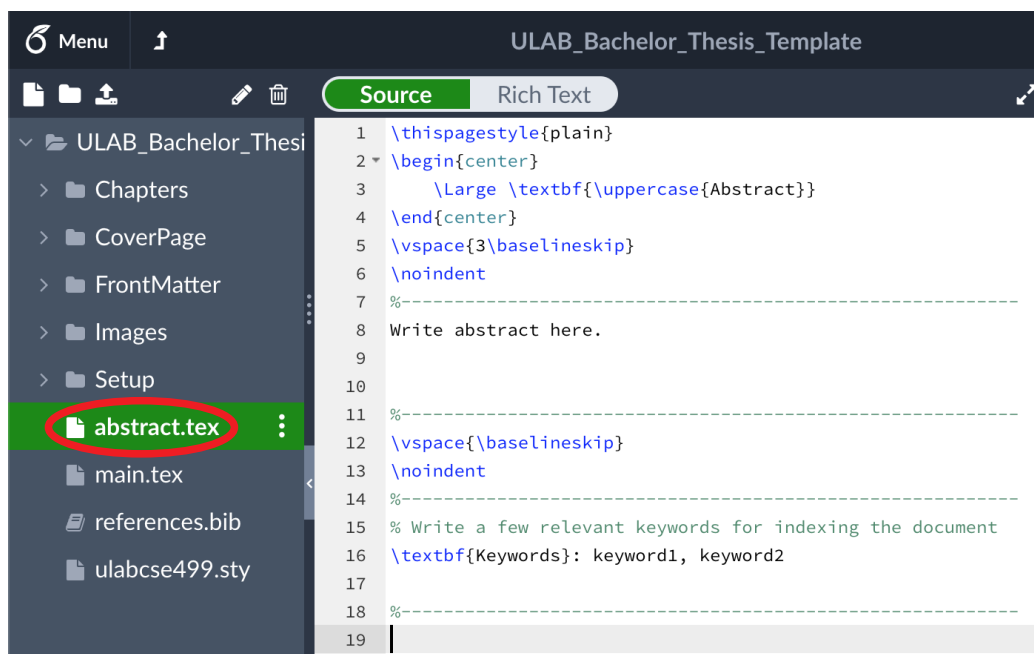


Figure 2.2: Write an Abstract of your work in the *abstract.tex* file accessible from the left side panel of Overleaf.

2.3 Abstract and Keywords

An abstract is a concise summary of an experiment or project written in usually a paragraph of roughly 250 words. An abstract should contain the information in the given order.

- the purpose of the study/project motivation;
- the basic design of the study/solving methods;
- major findings/challenges faced in implementing the project; and,

- a brief summary and conclusions.

In your report, you should write an abstract in the *abstract.tex* file. The location of the *abstract.tex* file is illustrated in Figure 2.2.

In the same file, there is a provision to include a few relevant keywords for indexing purpose.

2.4 Adding a New Chapter

Now, the template is ready for you to add chapters containing the text that you want to put in your report. This template already contains five chapters which are stored in the **Chapters** folder. You are free to edit all the chapters according to your need. Additionally, if you need more chapters to cater your need, first, follow the instructions given in Figure 2.3. Then, from the **Add Files** dialogue box give a file name with *.tex* extension. Finally, click on the **create** button to confirm your intention.

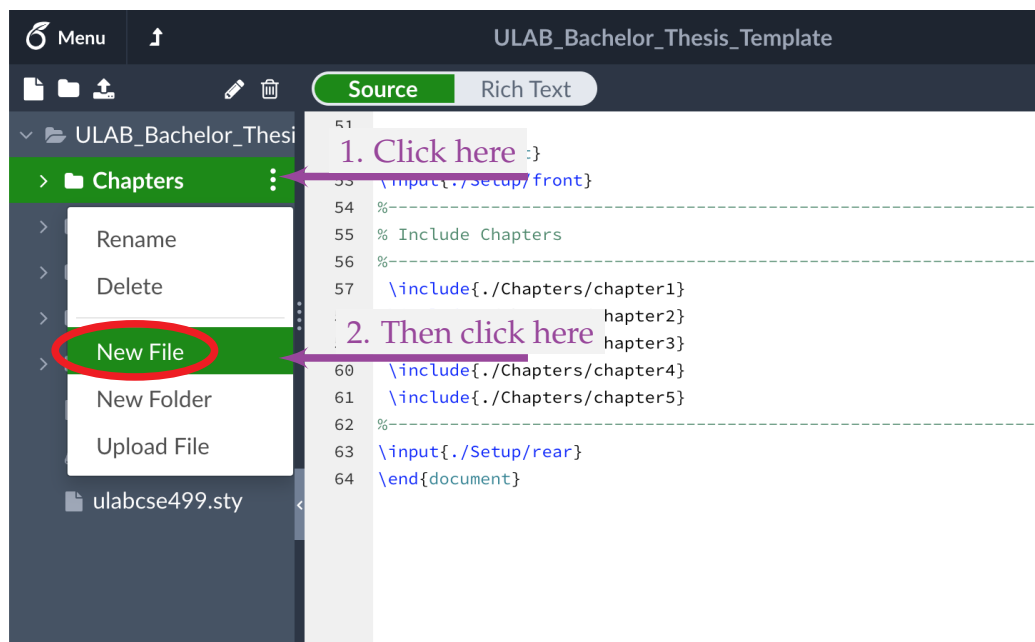


Figure 2.3: Create a new chapter from the left side panel of Overleaf of this template.

2.4.1 Customizing Chapter Title

The newly created chapter is to be prepared for using next. To customize the chapter title, you need to use `\chapter{}` command. For example, the newly created chapter title is *Literature Review*. In such case, you should use the following command at the beginning of the newly created chapter file.

```
1 \chapter{Literature Review}
```

The above command adds the newly created chapter. Now you are ready to add any content in the the chapter as required.

2.4.2 Including a Chapter in Your Report

Upon completing the chapter file creation and customizing the title, you can call it from *main.tex*. The primitive to be used in that case is `\include{./Chapters/...}`. Please replace ... with the chapter name that you have created just a while ago.

```
1 %-----  
2 % Include Chapters  
3 %-----  
4 \include{./Chapters/chapter1}  
5 \include{./Chapters/chapter2}  
6 \include{./Chapters/chapter3}  
7 \include{./Chapters/chapter4}  
8 \include{./Chapters/chapter5}
```

Please note that, you are free to rearrange the order of the chapters without considering their file name.

2.5 Adding Equations

It is almost impossible to write a thesis or a technical report in engineering discipline without equations. These equations contains mathematical functions, symbols, parameters, numbers, units or any combination of them. In \LaTeX adding equations is typeset based and easy to use. For example typeset $\frac{a}{b}$ produces $\frac{a}{b}$, a simple typeset $\bar{x} = \frac{\sum_{i=1}^n x_i}{n}$ produces an elegant inline equation $\bar{x} = \frac{\sum_{i=1}^n x_i}{n}$, and a simple and easy looking typeset $\cos(2\theta) = \cos^2 \theta - \sin^2 \theta$ produces an inline equation $\cos(2\theta) = \cos^2 \theta - \sin^2 \theta$.

Numbered equations are used and often required in scientific writing. To produce a numbered equation, you need to use an `equation` environment. The `equation` environment automatically numbers your equation which can be referred from the document. A simple example of generating numbered equation using `equation` environment is as follows.

```
1 \begin{equation}
2   x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}
3 \end{equation}
```

The above set of command adds the following numbered equation in your document.

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \quad (2.1)$$

You can also use the `\label` and `\ref` commands to label and reference equations, respectively. The following equation shows example of how to use `\label` and `\ref` commands in context.

```
1 \begin{equation} \label{eq:2}
2   E = mc^2
3 \end{equation}
4
5 The Eq. \ref{eq:2} defines the energy  $E$  of a particle in its
6 rest frame as the product of mass  $m$  with the speed of light
7 squared  $c^2$ .
```

The above piece of code produces the following output.

$$E = mc^2 \quad (2.2)$$

The Eq. 2.2 defines the energy E of a particle in its rest frame as the product of mass m with the speed of light squared c^2 .

2.6 Adding a Section

While writing a scientific document, it is necessary and often important to structure the content of the document into fundamental logic units. To achieve this, \LaTeX provides command to generate section headings and number them automatically. The commands to create section heading is simple.

1 `\section{...}`

The `\section{}` command is numbered and it appear in the table of contents of the document.

2.6.1 Adding a Subsection

You can add a subsection like this one using `\subsection{}` command and works in a similar manner as `\section{}` does.

2.6.1.1 Adding a Sub-subsection

You can add a subsubsection like this one using `\subsubsection{}` command. Sometimes you need to structure your report to a finer level and `\subsubsection{}` command helps you to achieve that intention.

2.7 Adding a Figure

“A picture is worth a thousand words” – a picture conveys information more effectively than words. A picture has the power of telling a story. sometimes complex and multiple ideas can be depicted using an image which would otherwise be difficult to convey by a verbal description. The images, figures, graphs and charts published within research articles are often the most important information in the paper. Photos can sum up key findings in a single image.

There are many important reasons to use images for scientific and academic writing. However, most students do not realize it which results in losing the chance to make writing more eye-catching and interesting. This happens due to lack of practice and lack of less knowledge of academic writing. Additionally, sometimes students use images, graphics and charts but they don't know how to include pictures in a research paper correctly with proper citing.

In your report, if you want to add a figure properly then first and foremost important task is to import the figure in the “Images” folder of this project. To do that, please follow the instructions given in Fig. 2.4. Then use the *Add Files* dialogue box to complete uploading the image. When the figure is uploaded, you are now ready to use the image in your report.

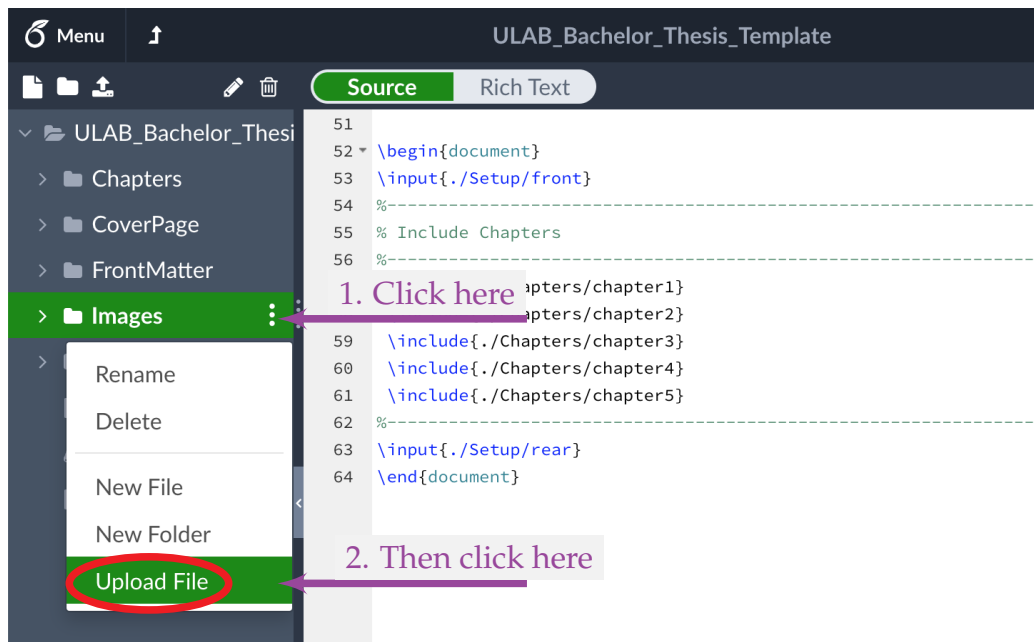


Figure 2.4: Adding a new figure in Images folder from the left side panel of Overleaf of this template.

Then add the figure to the desired location of your report using the following commands (assuming that the image you would like to add is Mars.jpg).

```

1 \begin{figure}[ht]
2   \centering
3   \includegraphics[width=0.40\textwidth]{Images/Mars.jpg}
4   \caption{Picture of the Planet Mars in natural color.}
5   \label{fig:mars}
6 \end{figure}

```

In the above code, a figure is added having a caption “Pictured of the Planet Mars in natural color.”. Additionally, you should add a `\label{fig:mars}` to the figure by which you can refer the figure (e.g. `\ref{fig:mars}`) from the body of the text. The command `\centering` is used to center align the figure.

You can also use the `\label` and `\ref` commands to label and reference figures, respectively. The following listing shows example of how to use `\label` and `\ref` commands in context.

```

1 \begin{figure}[ht]
2   \centering
3   \includegraphics[width=0.40\textwidth]{Images/Einstein.png}

```

```

4 \caption{Einstein's official portrait after receiving the
5 1921 Nobel Prize in Physics.}
6 \label{fig:einstein}
7 \end{figure}
8
9 In 1920, Albert Einstein became a Foreign Member of the Royal
10 Netherlands Academy of Arts and Sciences. In 1922, he was
11 awarded the 1921 Nobel Prize in Physics "for his services to
12 Theoretical Physics, and especially for his discovery of the
13 law of the photoelectric effect". Figure \ref{fig:einstein}
14 shows his official portrait after receiving the prize.

```

The above code produces the Figure 2.5 and the text below. Please have a careful look how `\label{}` is used within `figure` environment and how the figure is cited from the text using `\ref{}` command.

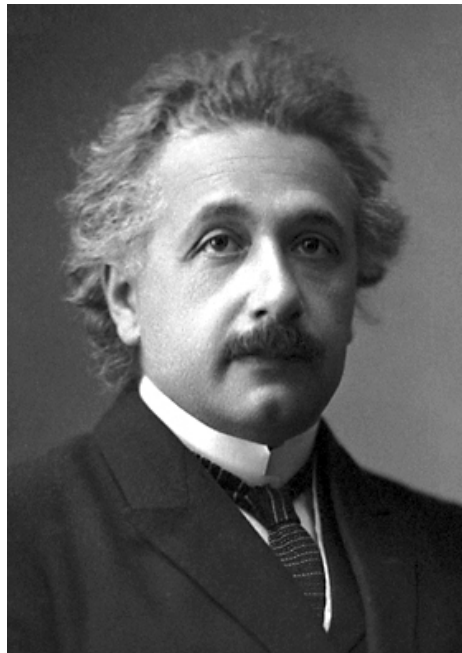


Figure 2.5: Einstein's official portrait after receiving the 1921 Nobel Prize in Physics.

In 1920, Albert Einstein became a Foreign Member of the Royal Netherlands Academy of Arts and Sciences. In 1922, he was awarded the 1921 Nobel Prize in Physics "for his services to Theoretical Physics, and especially for his discovery of the law of the photoelectric effect". Figure 2.5 shows his official portrait after receiving the prize.

2.8 Adding a Table

Tables are an integral part of scientific writing. A table often used to summarize your findings clearly and neatly, and it allows the reader to understand the results and importance of the results. When you plan to include a table in your report, you should think carefully to present your data so that the readers understand it easily. Tables have several elements, including the caption, column titles, and body.

- **Caption:** Tables should have a clear caption with sufficient amount of detail to understand it standalone.
- **Column Titles:** Column titles are the headline of your data. A good set of column titles allow the reader to understand the table quickly.
- **Body:** This is the part of the table where data is presented.

A table can be added in your documents by using a `table` environment. The following code of a `table` environment produces a table shown in Table 2.1.

```
1 \begin{table}[ht]
2   \centering
3   \caption{Data collected from four students.}
4   \begin{tabular}{l c c c}
5     \hline
6     Name      & Weight (lb) & Height (in) & Gender \\
7     \hline \hline
8     Alice    & 133         & 65          & F      \\
9     Bob      & 160         & 72          & M      \\
10    Charlie  & 152         & 70          & M      \\
11    Diana   & 120         & 60          & F      \\
12  \end{tabular}
13  \label{tab:1}
14 \end{table}
```

Table 2.1: Data collected from four students.

Name	Weight (lb)	Height (in)	Gender
Alice	133	65	F
Bob	160	72	M
Charlie	152	70	M
Diana	120	60	F

2.9 Citing Articles

In academic writing, you need to read many scientific articles, reports or even authentic web documents to know the state of the art of your field of research. While preparing your report, you may need to use the information provided in those documents. If you consider doing so, you are allowed to do it giving credits to the original authors via citations. A citation is a reference to the source article of information that you used in your research. Any time you directly quote, paraphrase or summarize the essential elements of others idea in your work, you must cite the source. While directly quoting sentences from a published work, it should be surrounded by quotations marks with proper citation. Paraphrasing and summarizing or the published work are also allowed but you should cite the source properly. To cite an article, you may copy the BibTeX for the corresponding article from Google Scholar or any digital library. Please follow the steps provided in Figure 2.6 to get the BibTeX of an article that you are looking for using Google Scholar.

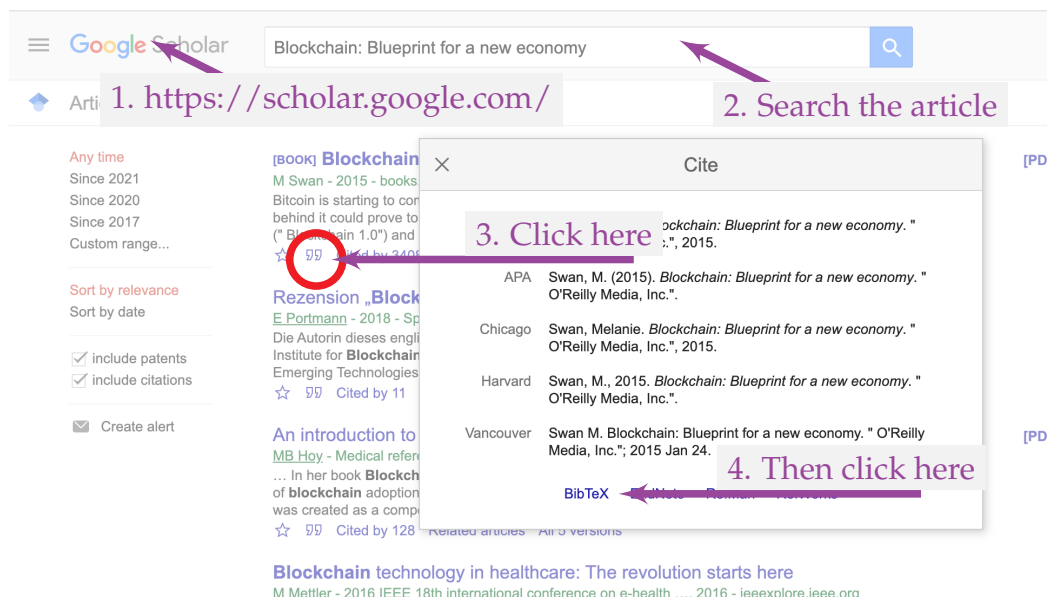


Figure 2.6: BibTeX is readily available in Google Scholar.

A typical BibTeX of an article looks as follows:

```
1 @article{krizhevsky2012imagenet,
2   title={Imagenet classification with deep convolutional
```

```

3  neural networks},
4  author={Krizhevsky, Alex and Sutskever, Ilya and Hinton,
5  Geoffrey E},
6  journal={Advances in neural information processing systems},
7  volume={25},
8  pages={1097--1105},
9  year={2012}
10 }

```

Get a required BibTeX and paste that in the *references.bib* file of this template. Please refer to Figure 2.7 to locate *references.bib* file. You should take a note of the key to use in your report. In the above example *krizhevsky2012imagenet* is the key.

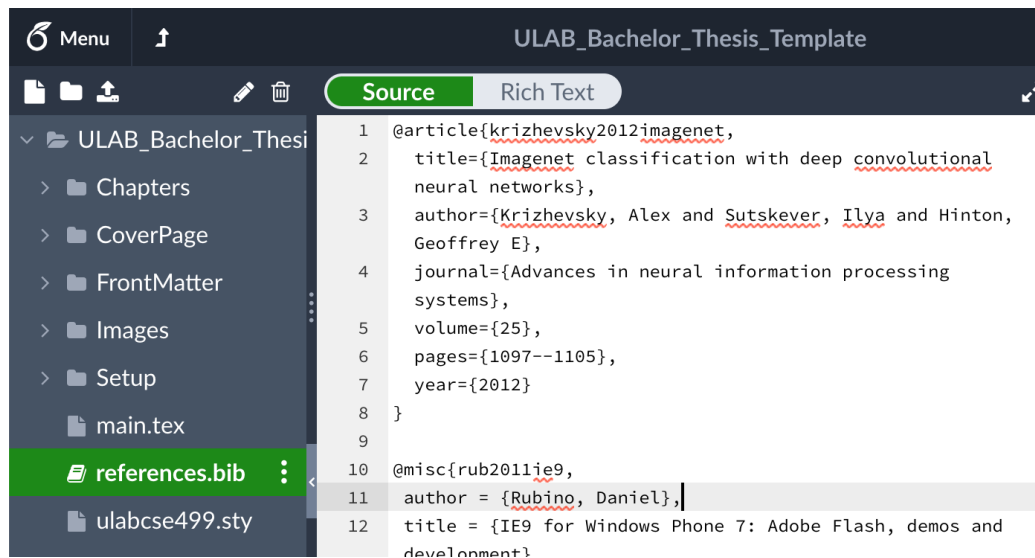


Figure 2.7: Adding a new BibTeX entry in reference.bib from the left side panel of Overleaf of this template.

Next, go to the desired location in your report to insert the reference. To cite this article, please write a command as follows:

```

1 Convolutional Neural Network revived with the success of
2 \cite{krizhevsky2012imagenet} in ImageNet competition.

```

Next time you recompile, reference will be created as follows:

Convolutional Neural Network revived with the success of [1] in ImageNet competition.

Now, please go to the Bibliography section (you may jump to there by clicking on the number in green color as well) of your report where you will find bibliographic detail of your referred article.

2.9.1 Citing a Web Document

If you need to cite an authentic source of web information then you can fill up a BibTeX entry as follows.

```
1 @misc{seeta2011what ,
2   title = {What is a liberal arts degree?},
3   author = {Seeta Bhardwa},
4   publisher = {Times Higher Education},
5   howpublished = {https://www.timeshighereducation.com/student/
6   advice/what-liberal-arts-degree},
7   year = {2020}
8 }
```

In the following, the above BibTeX entry is cited in context.

```
1 “A liberal arts degree gives students the opportunity to
2 study many different areas of interest and to consider various
3 career options” \cite{seeta2011what}.
```

The above code produces the following output. You can check the BibTeX entry in the Bibliography section.

“A liberal arts degree gives students the opportunity to study many different areas of interest and to consider various career options” [2].

2.10 Summary

L^AT_EX allows you to produce your document with a great level of flexibility without compromising the quality of the output. This chapter has described how to use this template with two scenarios. However, this template is not restricted to use only for those two cases. The scenarios provided here only for illustration purpose and for better understanding of the students. You are allowed to use it in any combination of a group and the report type. For any support please send an email to muhammad.hasan@ulab.edu.bd

Chapter 3

Proposed Method

Chapter 4

Experimental Results

Chapter 5

Conclusion

Bibliography

- [1] Alex Krizhevsky, Ilya Sutskever, and Geoffrey E Hinton. Imagenet classification with deep convolutional neural networks. *Advances in neural information processing systems*, 25:1097–1105, 2012.
- [2] Seeta Bhardwa. What is a liberal arts degree? <https://www.timeshighereducation.com/student/advice/what-liberal-arts-degree>, 2020.

Please use the following page format for the cover of your report.

Title of Thesis/Capstone Project

Thesis for the degree of

Bachelor of Science in Computer Science and Engineering

by

First Author

243014000



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

UNIVERSITY OF LIBERAL ARTS BANGLADESH

FALL 2028