

UNDERGRADUATE PROJECT REPORT

|  |  |
| --- | --- |
| **Project Title:** |  |
| **Surname:** |  |
| **First Name:** |  |
| **Student Number:** |  |
| **Supervisor Name:** |  |
| **Module Code:** | **CHC 6096** |
| **Module Name:** | **Project** |
| **Date Submitted:** | **May 5, 2023** |

# **Declaration**

Here, students would sign a statement indicating that they adhered to appropriate academic conduct in carrying out their final project.

# **Acknowledgment**

Here, students are given the opportunity to thank those who have provided you with assistance and support.

# **Table of Contents**

**[Declaration](#_Toc129605831)** [i](#_Toc129605831)

**[Acknowledgment](#_Toc129605832)** [ii](#_Toc129605832)

**[Table of Contents](#_Toc129605833)** [iii](#_Toc129605833)

**[Abstract](#_Toc129605834)** [iv](#_Toc129605834)

**[Abbreviations](#_Toc129605835)** [v](#_Toc129605835)

**[Glossary](#_Toc129605836)** [vi](#_Toc129605836)

**[Chapter 1 Introduction](#_Toc129605837)** [1](#_Toc129605837)

**[1.1](#_Toc129605838)****[Background](#_Toc129605838)** [1](#_Toc129605838)

**[1.2](#_Toc129605839)****[Aim](#_Toc129605839)** [1](#_Toc129605839)

**[1.3](#_Toc129605840)****[Objectives](#_Toc129605840)** [1](#_Toc129605840)

**[1.4](#_Toc129605841)****[Project Overview](#_Toc129605841)** [1](#_Toc129605841)

**[1.4.1](#_Toc129605842)****[Scope](#_Toc129605842)** [1](#_Toc129605842)

**[1.4.2](#_Toc129605843)****[Audience](#_Toc129605843)** [1](#_Toc129605843)

**[Chapter 2 Background Review](#_Toc129605844)** [2](#_Toc129605844)

**[Chapter 3 Methodology](#_Toc129605845)** [3](#_Toc129605845)

**[3.1](#_Toc129605846)****[Approach](#_Toc129605846)** [3](#_Toc129605846)

**[3.2](#_Toc129605847)****[Technology](#_Toc129605847)** [3](#_Toc129605847)

**[3.3](#_Toc129605848)****[Project Version Management](#_Toc129605848)** [3](#_Toc129605848)

**[Chapter 4 Results](#_Toc129605849)** [4](#_Toc129605849)

**[Chapter 5 Professional Issues](#_Toc129605850)** [5](#_Toc129605850)

**[5.1](#_Toc129605851)****[Project Management](#_Toc129605851)** [5](#_Toc129605851)

**[5.1.1](#_Toc129605852)****[Activities](#_Toc129605852)** [5](#_Toc129605852)

**[5.1.2](#_Toc129605853)****[Schedule](#_Toc129605853)** [5](#_Toc129605853)

**[5.1.3](#_Toc129605854)****[Project Data Management](#_Toc129605854)** [5](#_Toc129605854)

**[5.1.4](#_Toc129605855)****[Project Deliverables](#_Toc129605855)** [5](#_Toc129605855)

**[5.2](#_Toc129605856)****[Risk Analysis](#_Toc129605856)** [5](#_Toc129605856)

**[5.3](#_Toc129605857)****[Professional Issues](#_Toc129605857)** [5](#_Toc129605857)

**[Chapter 6 Conclusion](#_Toc129605858)** [6](#_Toc129605858)

**[References](#_Toc129605859)** [7](#_Toc129605859)

**[6.1](#_Toc129605860)****[Formatting Requirements](#_Toc129605860)** [7](#_Toc129605860)

**[6.2](#_Toc129605861)****[Written Presentation](#_Toc129605861)** [7](#_Toc129605861)

**[Appendices](#_Toc129605862)** [8](#_Toc129605862)

# **Abstract**

Up to 250 words, concise outline of background, aims, results, and achievements.

***Keywords: This is part of the “Abstract” section. Students are to provide at least 3 keywords that best describe their project topic. Do not list more than 8 keywords.***

# **Abbreviations**

This section should have the definition of any abbreviations used in the report

# **Glossary**

This section should have the definition of all the keywords you stated in the “Abstract” section. You can also define other relevant keywords. Particularly, if your final project report includes rare, unfamiliar, specialized, or made-up words or terms, the glossary serves as a dictionary for the reader to reference throughout their reading of the project report. (Note: this section should only contain definitions for specific terms in the project report. It does NOT function as an ordinary dictionary. Hence, common words related to the Computer Science and Software Engineering disciplines should NOT be included in this list.)

# **Introduction**

*This is an update of the Introduction from your previous reports. Students are to also incorporate the feedback from their supervisor. Also, include subsequent ideas and research that you have discovered.*

## **Background**

This section should describe the overview of the topic and motivations. Provide appropriate references wherever necessary.

## **Aim**

The overall goal of your project should be stated here. It is recommended that each project should have a single aim.

## **Objectives**

Students are to state the several tasks/steps that would help them to accomplish the overall aim/goal of their project.

## **Project Overview**

(NB: Most students are working either on a software development-based project or a machine learning/deep learning-based project. Hence, in section 1.4, students must adopt the appropriate theme/content depending on their project topic.)

### **Scope**

The scope of a software development project should answer the questions: what will the software do? How will the software work? The scope for a machine learning/deep learning-based project should focus on answering the questions: what is the purpose of the study? How significant is the study?

### **Audience**

The audience for a software development project should focus on who is the software for? The audience for a machine learning/deep learning-based project should focus on who will benefit from the findings.

# **Background Review**

This chapter is an update of the Background Review from your previous reports, using the feedback you received from your supervisor. Compare existing approaches and include a themed literature review, with a critical appraisal of the sources. Provide appropriate and sufficient references. Also include *the feedback you received from your supervisor. You can add any additional key sources that you have discovered.*

Students doing software development-based projects can write their background review by providing a **summary of existing approaches (e.g., competitive analysis, if appropriate),** and others doing research-oriented projects (machine learning & deep learning projects) can write their background review by stating **a summary of related literature (e.g., annotated bibliography, or initial literature review, with a brief summary of sources).**

**Annotated Bibliography aids as in doing a good literature review. It is not the literature review. However, your final background review must be paragraphs with appropriate citations. Whenever appropriate, a table can be adopted.**

# **Methodology**

## **Approach**

The approach for a software development project should focus on the description of the software development methodology being used for the project. For example, the software development model, requirement-gathering methods, etc.

The approach for a machine learning/deep learning-based project should focus on describing the core machine learning model to be employed. Describe the mathematical basis, the algorithm details, and the optimization strategy, if applicable. Also, describe the datasets and data processing techniques to be used where relevant.

## **Technology**

State all the implementation tools & resources, such as hardware and software that have been adopted for your project.

## **Project Version Management**

In this section, students must describe how they have used resources such as Baidu drive, Gitee, etc., to manage their project source codes. The link to the full project source should be provided.

# **Results**

Here students are to provide detailed descriptions and documentation of results and testing. Critical evaluation and discussion of results, issues encountered constraints, limitations, and originality.

The subsection layouts of this section mostly depends on the type of project that the student is carrying out. Students can introduce subsections that will help the readability of their work.

For instance, students doing software development-based projects should provide the detailed use of their software in this chapter. Screenshots (images) of their graphical user interfaces can be depicted in this chapter. Other relevant details about the testing and evaluation of their software can be stated here as well.

Also, students doing research-oriented projects (machine learning & deep learning projects) should state the results of their model training, validation and testing. Use appropriate graphs and figures to illustrate your results. Results from case studies and ablation study of hyper-parameters should be stated here. In a situation where a machine learning-based project was deployed as a web or mobile application, students are to provide details of functionality tests.

# **Professional Issues**

## **Project Management**

### **Activities**

State the complete tasks for each objective. The details here can be presented by a table.

### **Schedule**

In this section, you can use a Gantt chart or other charts to show the activities and their deadlines. Highlight all completed tasks in the project schedule chart.

### **Project Data Management**

In this section, students must describe how they have used resources such as Baidu drive, Gitee, etc., to manage project logs, reports, literature, etc.

### **Project Deliverables**

In this section, briefly list all the documents and project resources that have been submitted for assessment. Example: Project proposal, progress report, final report, project code/ software, poster presentation file, etc.

## **Risk Analysis**

Risk analysis as informed by the current project progress; Resolved risks and the success of the mitigation strategy; Changes to the project plan as a result of risks; Future risks.

## **Professional Issues**

Identification and discussion of relevant legal, social, ethical, and environmental issues in the context of the project. Refer to professional codes of conduct, e.g. BCS, ACM.

# **Conclusion**

Summary of what was achieved and potential future work.

# **References**

* The layout above is a suggestion of how to present your Final Project Report. Whenever appropriate, introduce sections that will help the readability of your work.
* The Length of the final report should be **8000 – 10000 words**.
* All sections and subsections should be numbered for cross-referencing purposes.
* Regarding citations and references, students must adhere to the University guidelines or IEEE referencing style. **Students doing software development-based projects can cite related websites, web applications, developer documentation, etc. They can cite related articles to their projects, but it is not required. Students doing research-oriented projects should focus on citing research articles. They can also cite appropriate websites whenever necessary. Students are advised to use appropriate reference management software such as Mendeley Reference Manager or Zotero to ensure the correctness of all references.**

## **Formatting Requirements**

Your written report must be presented in the following format:

* All main sections/chapters should begin on a new page. The Declaration page, Tables of Contents pages, Acknowledgment, Abstract, Abbreviation, Glossary, Project Chapters (Chapters 1 to 6), and Appendices should all start on a new page.
* It must be word-processed in 11-point Arial font.
* It must be black text on a white or ivory background
* All pages must be numbered. Follow the appropriate page numbering format specified in the template.
* Margins must be as follows: Top: 1 inch, Bottom: 1 inch (2.5 cm), Left: 1.25 inches, Right:
* 1.25 inches (3.2 cm)
* Use a line spacing of 1.5
* Numbers and captions to figures and tables should be at the bottom of the figure or table. If the figure or table is mounted sideways into the report, then its bottom is on the right-hand side of the report. **All tables and figures must be labeled**.
* Normally, the report should not contain more than 80 tables/figures.

## **Written Presentation**

* The final project report must have a concise written presentation and referencing style.
* It should also have a clear & logical presentation.

**NOTE:**

1. **All the text in red colour are basic guidelines and must be DELETED after using this guide.**
2. **Finally, update the “Table of Contents” appropriately to display the correct section titles and corresponding page numbers.**

# **Appendices**

This section can have the essential information/data that are necessary to be included within the report but would disrupt the flow of the main argument. This section is not marked. Examples include links to data and software repositories, questionnaires, raw survey results, and wireframes.