CS 3201N – CS Thesis 1 (Technical Background)

Angie M. Ceniza-Canillo, PhD
Full Professor, Department of Computer, Information Sciences and Mathematics
School of Arts and Sciences
University of San Carlos

Parts of CS Thesis 1

1. Title Page
2. Abstract
3. Chapter 1 Introduction
4. Chapter 2 Review of Related Literature
5. Chapter 3 Technical Background
6. Chapter 4 Design and Methodology
7. Bibliography
8. Appendices (Transmittal Letter, Interview Guide, Software Requirements Specifications)
9. Curriculum Vitae

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What is Technical Background?

- This section may include a comprehensive discussion of **theorems, definitions, fundamental algorithms, mathematical models, and/or formulas** relevant in the study.

- This chapter should be **elaborated** as much as possible in **layman's terms**.

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What is Technical Background?

- The technical background must be written in **narrative form**.

- **Subheadings** are recommended for descriptions that are substantially long.

What is Technical Background?

- Items are arranged by **order of importance or theme**.

- Aside from texts, the author may put **tables, graphs, illustration, pictures and other relevant information** as necessary.

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Example of Technical Background

CHAPTER 3
TECHNICAL BACKGROUND

This chapter contains the definition of technical terms used in prior chapters or to be used in the upcoming chapters. The said terminologies shall range from terminologies in the field of Computer Science and the field of Medicine.

Hyperthyroidism

Hyperthyroidism is a condition in which an overactive thyroid gland is producing an excessive amount of thyroid hormones that circulate in the blood (American Thyroid Association, 2021).

Hypothyroidism

Hypothyroidism is the body's condition whereby there is not enough production of thyroid hormones from the thyroid gland, so that the thyroid hormone levels are low (American Thyroid Association, 2021).

Pathological Conditions

According to the Merriam-Webster Dictionary (2021), the term "pathological" is an adjective used to describe something that is suggestive to a particular disease. Pathological has the root word "pathology", whose etymology is derived from the Greek word *pathos*, meaning disease. Pathology was a study of the change in the cells and tissues because of a disease. Pathological conditions, then, are not diseases, but are abnormal physiological conditions that may be an indication of a particular disease (Porth, 2005).

Serological Test

Serology is a part of medical science which deals with the study of blood, particularly blood serum for the purpose of examining their properties. ("Serology", 2021). Serological tests are tests performed to measure and determine the immune system's response (World Health Organization, 2021) to different substances that can trigger infections, sickness, and diseases (Biggers, 2018).

Database

Data is a collection of facts obtained from an object or a group of objects with the purpose of being studied to create something meaningful and useful ("Data", 2021). A database is a collection of data, organized in a systematic manner for the ease of retrieval, management, and manipulation ("Database Defined", 2021).

Predictive Technology

Predictive technology is a branch of Data Science that consists of a set of tools that allow the forecasting and discovery of the likelihood of something happening and future trends based on a set of data obtained from the past through the analysis of previous and current trends and patterns. It has been used in various ways such as weather forecasting and analyzing trends in stock and investments ("Predictive Technology", 2021).

Data Set

A data set is a collection of data, usually observations, with discrete values of attributes that describe each instance of data in the set (Nelson, 2020). For example, a person may be defined in terms of their age, gender, and nationality.

Algorithm

Algorithm is a term commonly associated with computers, and refers to a series of detailed and step-by-step processes taken to obtain an intended result or solve a specific problem, usually referring to the collection of the data, the processing of which, and the display of the output. It often answers the question "What must I do so that I may be able to accomplish a certain task?" (Bronson, 2007).

Machine Learning

Machine learning is a branch of artificial intelligence that allows machines to simulate the way by which humans think and act. It is focused on the premise that computers are able to learn through the use of data, and allowing it to

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Sources:

- Thesis Projects

    A Guide for Students in Computer Science and Information Systems

    Authors: Mikael Berndtsson, Jörgen Hansson, Björn Olsson, Björn Lundell

    ISBN: 978-1-84800-008-7 (Print) 978-1-84800-009-4

- PSITE Undergraduate Research and Capstone Project Manual

    Authors: Cherry Lyn Sta. Romana, Randy Gamboa, Dave Marcial, Gregg Victor Gabbison, Allan Sioson

    ISBN: 978-971-95389-0-5

- IJCCSE journal of Computer Science How to do Research Step by Step Guide

- Presentation of Jaderick from UPLB

Sources:

- Thesis Projects

  A Guide for Students in Computer Science and Information Systems Authors: Mikael Berndtsson, Jörgen Hansson, Björn Olsson, Björn Lundell

- ISBN: **Book**

  Gray, D. (2009). Doing Research in the Real World 2nd edition. British Library

- Online

  Presentation of Danilo B. Largo, Ph. D.

  Presentation of Shamanthakamani Narendan, Ph. D.

  Presentation of Bobby Gerardo, Ph.D.

  University of Michigan Proposal Writer's Guide by Don Thackrey

  Department of Computer Science, Ryerson University

  Jason Eisner of University of Pennsylvania

Thank you for listening.

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