Jomo Kenyatta University of Agriculture and Technology

College of Engineering and Technology

School of Mechanical, Materials, and Manufacturing Engineering

Department of Mechatronic Engineering

Designing a Hydrogen Fuel Cell Control System

Final year project (FYP 13-11)

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Declaration

We hereby declare that the work contained in this report is original; researched and documented by the undersigned students. It has not been used or presented elsewhere in any form for award of any academic qualification or otherwise. Any material obtained from other parties have been duly acknowledged. We have ensured that no violation of copyright or intellectual property rights have been committed.

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Abstract

This project . . . . . .

1 Introduction

1.1 Background

(Insert your content)

gghjbbnmmm

1.2 Problem statement

(Insert your content)

1.3 Objectives

(Insert your content)

1.4 Justification of the study

(Insert your content)

2 Literature Review

Itemization

- Item 1.

- Item 2.

- ...

$$\dot{x} = Ax + Bu + B_d w \tag{2.1}$$

Refering a chapter in the main text. For instance Chapter 2

$$E = 210000 \ \frac{\text{N}}{\text{mm}^2}$$

$$\rho = 7{,}85 \ \frac{\text{g}}{\text{cm}^3} = 7850 \ \frac{\text{kg}}{\text{m}^3}.$$

$$\Delta \boldsymbol{r}_k = \boldsymbol{r}_{\text{GBE}_k} - \boldsymbol{r}_{\text{C}_k} = \left(x_{\text{GBE}_k} - x_{\text{C}_k}, y_{\text{GBE}_k} - y_{\text{C}_k}\right)^T = \left(\Delta x_k, \Delta y_k\right)^T \tag{2.2}$$

$k = 2 \ldots n$

$$\left\| \boldsymbol{r}_{\text{GBE}_k} - \boldsymbol{r}_{\text{C}_k} \right\| \leq r_{kj}, \tag{2.3}$$

$k \ j$

[To appear in the list of tables]Caption for the table should be at the top of the table

It can also overflow to next line

First column	Second column	Third column
1	2	4
4	6	23
34	2	0

$$\text{rank } \boldsymbol{Q}_{\mathrm{B}} = \text{rank} \begin{bmatrix} \boldsymbol{C} \\ \boldsymbol{CA} \\ \boldsymbol{CA}^2 \\ \vdots \\ \boldsymbol{CA}^{n-1} \end{bmatrix} = n. \tag{2.4}$$

$$K_\varphi = 3.64 \, \frac{\mathrm{V}}{\mathrm{rad}} \quad \text{and} \tag{2.5}$$

$$K_x = 28.32 \, \frac{\mathrm{V}}{\mathrm{m}}. \tag{2.6}$$

2.1 Name of a subsection

q_1, q_2 and q_3 (see Fig. **??**).

2.2 Another subsection

3 Methodology. . .

This is

4 Expected Outcomes