



INFORMATICS INSTITUTE OF TECHNOLOGY

In Collaboration with

UNIVERSITY OF WESTMINSTER

“SinSQLizer”

**Enhancing Sinhala Natural Language Interface to Database
using NLP techniques**

A dissertation by

Hirantha Waas

W1715753 / 2017321

Supervised by

Mr. Vihanga Ashinsana Wijayasekara

Submitted in partial fulfilment of the requirements for the
BEng (Hons) Software Engineering degree at
The University of Westminster.

May 2023

Abstract

The primary goal of the project is to alleviate the difficulty of data retrieval from databases for non-technical people, with an emphasis on Sri Lanka's native Sinhala-speaking populace. Since many e-governance programs in the nation employ relational databases, which can be challenging for non-experts to manage, the problem is even more pressing in this setting.

The research offers a novel approach to address this issue by converting Sinhala language into SQL queries using natural language processing (NLP). By doing this, the solution will offer a user-friendly interface that makes it simple for non-technical users to extract complicated data from relational databases without the need for advanced technical knowledge. By bridging the gap between natural language and databases, this improved SQL query builder will enable a wider spectrum of Sri Lankans to access and utilize e-governance systems.

The overall goal of this project is to dramatically increase the usability and accessibility of e-governance systems in Sri Lanka, which will be advantageous to both individuals and enterprises. This solution can assist in streamlining procedures, boosting efficiency, and ultimately assisting in the construction of more effective e-governance systems by reducing the technological obstacles to data retrieval from relational databases.