**DECLARATION**

We hereby declare that, this project has been done by us under the supervision of Ditee Yasmeen, Assistant Professor, Department of CSE in INSTITUTE OF SCIENCE AND TECHNOLOGY. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

**Signature**

**------------------------------------**Registration No: 14502000897  
Session: 2014-15  
Department of CSE  
Institute of Science and Technology

**APPROVAL**

Design and development of”THE TRAFFIC SYMPHONY” submitted by RIFA NANZEEBA, Reg. No: 14502000897 to the department of Computer Science & Engineering, Institute of Science and Technology has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of Bachelor of Science in Computer Science and Engineering under National University and approved as to it’s style and contents.

**Signature of Internal Examiner:**

**……………………………….**

DITEE YASMEEN  
(Supervisor)  
Assistant Professor  
Department of CSE  
INSTITUTE OF SCIENCE AND TECHNOLOGY

**ACKNOWLEDGMENT**

I would like to express my deep gratitude to my research supervisor DITEE YASMEEN, For her patience guidance, enthusiastic encouragement and useful critiques of the research work.

**ABSTRACT**

Autonomous car is no more theory. Traffic Symphony is a system for autonomous vehicle. The idea is to share each and every vehicle’s data for a specific region by maintaining a digital ledger. If one car finds any deadlock traffic situation in any specific area, it is going to generate a signal to the system and other cars around it which are in same situation or nearby it or at least having any kind impact on the effect are going to validate the situation. This system gives control to an autonomous vehicle to communicate with every other vehicle in the system and resolve the situation without any human interaction using most efficient algorithm/technique. Human are vulnerable and obviously never a perfect driver. In this research I have put together some basic technologies and tried to solve a major global problem. The research is about the concept of level – 6 autonomous car. Not the literal implementation but the visualization of the concept.

**Table of Contents**

**Chapter Title Page No**

1. **Introduction**
   1. Introduction 2
   2. Objective 2
   3. Motivation 2
   4. Scope of the Project 3
   5. Organization of the Project 3
   6. Summary 4
2. **Literature Review**
   1. Introduction to The Autonomy 6
      1. The Self Driving Vehicle 6
      2. Different Level of Autonomous Vehicle 6
   2. Self-Driving Cars Lawsuit 8
   3. The Proposed Infrastructure 9
      1. The Cloud and The Local AI 9
      2. The BlockChain and Hyperledger 9
      3. The Remote of Server AI 10

2.4 The Proposed Lawsuit 10

2.5 The Three Dimensional Preview 10

2.6 Open and Web Based 11

2.7 The Ledger 11

2.8 The Remote AI 11

2.9 The Properties of a Autonomous Vehicle 11

2.10 Impacts, Solution, and Sustainability 12

* 1. Metrics and Associated Impacts 13

2.12 Summary

1. **System Analysis**

3.1 Introduction 16

3.2 Existing Infrastructure Near to the Autonomy and The Advantages 16

3.2.1 Waymo 16

3.2.2 BMW’s Concept Cloud Infrastructure 17

3.2.3 Samsung’s Smart City 17

3.2.4 Google Traffic 18

3.3 Existing Visualization System and Advantages 19

3.3.1 Deck.gl 19 3.4 How Existing Infrastructure Works and Drawbacks 19

3.5 How Existing Visualization System Works and   
Drawbacks 20

3.6 Summary

4 **Proposed System Design**

4.1 Introduction 22 4.2 How Does The Proposed System Works 22

4.3 Data Flow Diagram of The System 23

4.4 Requirement for The Infrastructure 24

4.5 System Requirement for The Simulation 24

**References** 25

**List of Figures**

Figure No Title Page No

2.1 Properties of Autonomous Vehicle 12

3.1 Google’s Waymo 16

3.2 BMW’s Concept Cloud Infrastructure 17

3.3 Samsung’s Demonstration of The Smart City 18

3.4 Google Traffic 18

3.5 Deck.gl 19

4.1 Dataflow Diagram of The infrastructure 23