VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI

A PROJECT REPORT ON

"DYNAMIC TRAFFIC TOLLING PREDICATION IN SMART CITITES USING SOFT COMPUTING METHODS"

Submitted in partial fulfillment for the award of Degree of

BACHELOR OF ENGINEERING

IN

COMPUTER SCIENCE & ENGINEERING

By

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CERTIFICATE

This is to certify that the project entitled **"DYNAMIC TRAFFIC TOLLING PREDICATION IN SMART CITITES USING SOFT COMPUTING METHODS"** has been successfully completed by

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the bonafide students of **DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING, ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI** during the year 2023–24. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of Project work prescribed for the Bachelor of Engineering Degree.

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DECLARATION

We,

MONISHA M

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RASI K S

hereby declare that the dissertation entitled **"DYNAMIC TRAFFIC TOLLING PREDICATION IN SMART CITITES USING SOFT COMPUTING METHODS"** is completed and written by us under the supervision of our guide **Dr. Chandra Naik**, Associate Professor, Department of Computer and Engineering, Alva's Institute of Engineering and Technology, Moodbidri, in partial fulfillment of requirements for the award of the degree **BACHELOR OF ENGINEERING** in **DEPARTMENT OF COMPUTER AND ENGINEERING** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAVI** during the **academic** year 2023- 24. The dissertation report is original and it has not been submitted for any other degree in any university.

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ABSTRACT

The escalating challenges of urban traffic management necessitate innovative approaches to optimize tolling systems dynamical. This research proposes a predictive model leveraging soft computing methods to forecast toll rates based on varying traffic conditions, time of day, and other relevant factors. The research methodology involves data collection from diverse sources, preprocessing to ensure data quality, and feature selection to identify influential variables. Fuzzy logic is employed to model linguistic variables and formulate rules capturing the imprecise nature of traffic patterns. With the rapid urbanization and increasing vehicular traffic, smart city initiatives are becoming imperative for sustainable urban development. Among the critical challenges faced by urban planners is the management of traffic congestion, which not only affects the efficiency of transportation systems but also leads to environmental degradation and economic losses. Dynamic traffic tolling emerges as a promising solution to alleviate congestion by dynamically adjusting toll prices based on real-time traffic conditions. However, effective implementation of dynamic tolling requires accurate prediction models to anticipate traffic patterns and optimize tolling strategies.