

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

“Jnana Sangama” Belagavi – 590 018



**PROJECT REPORT ON
SPATIO-TEMPORAL ANALYSIS OF LAND USE
CHANGES IN DAKSHINA KANNADA USING
SATELLITE IMAGE PROCESSING**

Submitted in partial fulfillment of the requirements for the award of degree

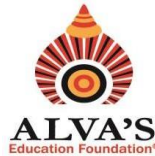
**BACHELOR OF ENGINEERING
IN
ELECTRONICS & COMMUNICATION ENGINEERING**

Submitted By

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY

Accredited by NAAC with A+ Grade & NBA (ECE & CSE)

MOODBIDRI – 574 225.

2023-2024

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(Affiliated to VTU, BELAGAVI)

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

CERTIFICATE

Certified that the project work entitled **SPATIO-TEMPORAL ANALYSIS OF LAND USE CHANGES IN DAKSHINA KANNADA USING SATELLITE IMAGE PROCESSING** is a bona fide work carried out by

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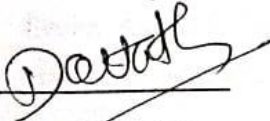
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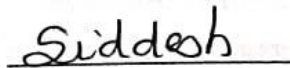
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in partial fulfillment for the award of **BACHELOR OF ENGINEERING** in **ELECTRONICS & COMMUNICATION ENGINEERING** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI** during the year **2023–2024**. It is certified that all corrections/suggestions 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.



Signature of the Guide

Dr. Dattathreya



Signature of the H.O.D

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ABSTRACT

In the current study, the Land Use and Land Cover Change (LULCC) of Dakshina Kannada District will be investigated. Dakshina Kannada District is located in Karnataka state, formed in the year 1956. The district has an area of 4559 sq.km and includes 9 taluks and 331 villages. Agroclimatically, Dakshina Kannada is situated in the coastal belt of Karnataka, characterized by high humidity levels. The temperature in the region varies between 20°C to 36°C, with an average annual rainfall of 3789 mm. Paddy, arecanut, nutmeg, and cashew are among the important crops grown in the area. The region has witnessed a shift towards cash crops and expanding infrastructure, leading to landscape modifications and changes in land use functionalities. The current work aims to study LULCC in Dakshina Kannada using long-term remote sensing data (Landsat series) and open-source technologies. Field investigations will be conducted in the district using Mobile GIS to identify various land use types for the current year. Machine learning techniques will be employed to analyze long-term satellite data, from historic to current, to visualize changes in the landscape. The outcomes of this study can provide valuable insights for decision-makers, regional planners, government and non-government entities, the public, and researchers, aiding in better understanding and decision-making towards sustainable wellbeing.