Tourism Data Exploration: Analysis and Visualization for Impactful Insights

A PROJECT REPORT

Submitted by,

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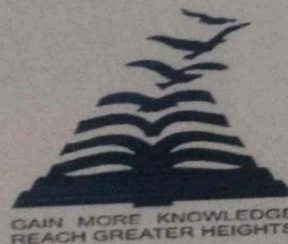
Under the guidance of,

Ms. Sreelatha P.K

in partial fulfillment for the award of the degree of

BACHELOR OF TECHNOLOGY

IN

COMPUTER SCIENCE AND ENGINEERING

At

GAIN MORE KNOWLEDGE
REACH GREATER HEIGHTS

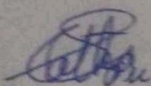**PRESIDENCY UNIVERSITY**
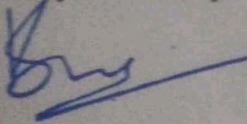
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JANUARY 2025

PRESIDENCY UNIVERSITY
SCHOOL OF COMPUTER SCIENCE ENGINEERING

CERTIFICATE

This is to certify that the Project report **"TOURISM DATA EXPLORATION: ANALYSIS AND VISUALIZATION FOR IMPACTFUL INSIGHTS"** being submitted by VAISHNAVI C, SHRUTHI V AND RUTHIKA S SHETTY bearing roll numbers 20211CSE0846, 20211CSE0298 AND 20211CSE0308 in partial fulfillment of the requirement for the award of the degree of Bachelor of Technology in Computer Science and Engineering is a bonafide work carried out under my supervision.
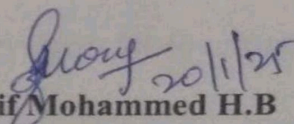

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Assistant Professor
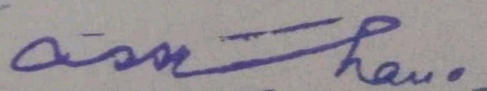School of CSE&IS
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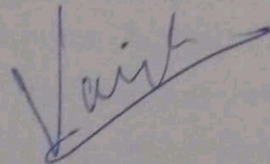Dean -School of CSE&IS
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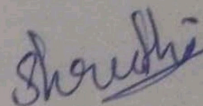
DECLARATION

We hereby declare that the work, which is being presented in the project report entitled **TOURISM DATA EXPLORATION: ANALYSIS AND VISUALIZATION FOR IMPACTFUL INSIGHTS** in partial fulfillment for the award of Degree of **Bachelor of Technology** in **Computer Science and Engineering**, is a record of our own investigations carried under the guidance of **MS. SREELATHA P.K**, **Assistant Professor, School of Computer Science Engineering & Information Science, Presidency University, Bengaluru.**

We have not submitted the matter presented in this report anywhere for the award of any other Degree.
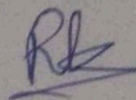
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ABSTRACT

Tourism happens to be a dynamic and fast-evolving sector, which is largely significant to economic development and cultural exchange. The project aims at improving the Indian tourism industry with an application of Artificial Intelligence and Machine Learning (AIML) techniques, providing insights and solutions to the industry through an analysis of varied datasets concerning Indian tourism-clustering, predictive modelling, and trend analysis to find useful patterns and insights within travel behavior, regional performance, and socio-economic impacts.

Clustering models assign clusters of tourist spots on aspects such as geographic characteristics, popularity, and preferences of visitors to create possible configurations of travel options. Predictive models predict the travel patterns with which tourism authorities plan their domestic circuit tours and better allocation of resources. This project will specify seasonal trends through historical and demographic data analyses and preferences that are region-specific to enable stakeholders to promote sustainable tourism practices. Advanced algorithms like K-Means clustering include data pre-processing, exploratory analysis, and generation of data visualizations to drive insightful decision-making. Such results include identification of highly-rated landmarks, overcrowded tourist destinations, and performance statistics on tourism for regions, which are necessary for the right managing of the marketing strategy, planning of infrastructure, and optimization of resources.

This project builds a comprehensive framework with AI/ML-driven technique-based approaches alongside holistic datasets toward thinking about and acting in the complex world of the tourism ecosystem, which also points to the transformational power of data-driven decision-making toward a sustainable future.