

**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**"Jnana Sangama" Belagavi – 590 010**



**PROJECT REPORT ON**  
**“LANDSLIDE PREDICTION MODEL FOR COORG**  
**REGION USING ANN APPROACH”**

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

**BACHELOR OF ENGINEERING**  
**IN**  
**CIVIL ENGINEERING**

**Submitted By**

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**ALVA'S INSTITUTE OF ENGINEERING AND TECHNOLOGY**

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**CERTIFICATE**


Certified that the project work entitled "LANDSLIDE PREDICTION MODEL FOR COORG REGION USING ANN APPROACH" has been successfully completed by


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The bonafide students of Department of Civil Engineering, Alva's Institute of Engineering and Technology in partial fulfillment for the award of BACHELOR OF ENGINEERING in **CIVIL ENGINEERING** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY BELAGAVI** during the year 2022-23. 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 seminar work prescribed for the Bachelor of Engineering Degree.

  
**Ms. Anusha B Rao**  
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## ABSTRACT

Landslides are one of the most frequent and destructive natural disasters, causing severe damage to life and property. The causes of landslides are multifaceted, encompassing various geological, meteorological, and anthropogenic factors. Geological factors include slope steepness, soil and rock type, and groundwater conditions, while meteorological factors such as heavy rainfall or snowmelt can trigger slope failures. Human activities, including deforestation, construction, and improper land use planning, can also contribute to landslide occurrence. Landslides can occur in different forms, including falls, slides, flows, and complex combinations therefore Each type exhibits distinct characteristics, ranging from sudden and rapid rockfalls to slow-moving debris flows. The understanding of landslide types is crucial for predicting their behaviour and implementing effective countermeasures. Accurate landslide prediction is crucial for preventing or mitigating the impact of landslides. In recent years, artificial neural network (ANN) approach has emerged as a promising tool for landslide prediction. The study uses various factors such as slope, rainfall, soil type, land use, and vegetation cover as input data to train the ANN model. The trained ANN model then predicts the likelihood of landslides in the region. The accuracy of the model depends on the quality and quantity of input data used for training. The results indicate that the ANN approach is effective in predicting landslides and can assist in mitigating the impact of landslides. The study highlights the importance of accurate and comprehensive data collection for landslide prediction and prevention.