# VISVESVARAYA TECHNOLOGICAL UNIVERSITY

“Jnana Sangama”, Belgaum-590018, Karnataka



A project phase-I report on

## “CROP YIELD PREDICTION USING DEEP LEARNING”

Submitted in fulfillment for the requirements of VII semester degree of

### BACHELOR OF ENGINEERING IN

**INFORMATION SCIENCE AND ENGINEERING**

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**2020-2021**

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**CERTIFICATE**

Certified that the Project on topic **Crop Yield Prediction using Deep Learning** has been successfully presented at **Don Bosco Institute of Technology** by **Shantideepa Samanta (1DB17IS035) and Kundan Kumar Prasad (1DB17IS018),** in partial fulfillment of the requirements for the *VII Semester degree of* ***Bachelor of Engineering in Information Science and Engineering of*** *Visvesvaraya Technological University, Belagavi* during academic year 2020-2021. 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 for the said degree

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**ABSTRACT**

In India agriculture contributes approximately 23% of GDP and employed workforce percentage is 59%.

India is the second-largest producer of agriculture crops. The technological contribution may help the farmer to get more yields. The prediction of the yield of different crops may help the farmer regarding taking the decision about which crop to grow. The research focuses on the prediction of different crops

Yield using neural network regression modeling. The data of crop cycle for summer, Kharif, rabi, autumn and whole year is used.

The dataset is filtered using Python Pandas and Pandas Profiling tools to retrieve data. The model is developed using a Multilayer perceptron neural network. Initially the result obtained considering optimizer RMS prop with accuracy 45 %, later it will be enhanced to 90% by increasing layers, adjusting weight, bias and changing optimizer to Adam. This research describes the development of a different crop yield prediction model with ANN, with 3 Layer Neural Network. The ANN model develops a formula to ascertain the relationship using a large number of input and output examples, to establish model for yield predictions an Activation function: Rectified Linear activation unit (Relu) is used. The backward and forward propagation techniques are used

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