



**SRI VENKATESWARA COLLEGE OF ENGINEERING & TECHNOLOGY**

(Autonomous)

RVS-NAGAR, TIRUPATI ROAD, CHITTOOR (A.P)- 517127.

**Department of Information Technology**

Cordially invite you for the Online Training Program on

**"Machine Learning from Scratch"**

Resource Person

**Eduxlabs & Team**

Date: 19-07-2021 to 23-07-2021

Event Coordinator

**(Mrs.G.HEMALATHA)**

HOD – IT

**(Dr. J. VELMURUGAN)**



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(AUTONOMOUS)  
R.V.S. NAGAR, CHITTOOR-517 127, ANDHRA PRADESH  
DEPARTMENT OF INFORMATION TECHNOLOGY**

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**CIRCULAR**

**Date: 15-07-2021**

It is hereby informed that our department is planned to organize a Five-days Online Training Program to all the students of IT department on the topic "**Machine Learning from scratch**" from **19-07-2021 to 23-07-2021**. All the students are instructed to use this opportunity and attend the same without fail.

  
**HoD - IT**

*Copy to:*

1. Principal sir for kind information
2. Circulate among the faculty
3. Circulate among the students



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## **Report: Machine Learning from Scratch**

**Organized By:** Department of Information Technology, SVCET

**Resource Person:** Eduxlabs & Team

**Date:** 19th July 2021 to 23rd July 2021

**Mode:** Online

**Venue:** SVCET

**Audience:** IT Department students of SVCET

**Coordinator:** Faculty members of the Department of IT, SVCET

**Head of the Department:** Dr. J. Velmurugan

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### **Introduction**

The Department of Information Technology at SVCET organized an Online Training Program titled "*Machine Learning from Scratch*" from July 19th to July 23rd, 2021. The program was conducted in collaboration with Eduxlabs, a reputed organization specializing in technical training. The training aimed to provide an in-depth understanding of machine learning concepts and practical implementations to IT department students. The program was conducted online due to prevailing circumstances, ensuring accessibility and participation from all attendees.

### **Objective**

The main objective of the training was to equip students with foundational knowledge and hands-on experience in machine learning. It focused on building a strong understanding of concepts from scratch and exploring real-world applications, thus preparing students to handle advanced topics in the field of data science and artificial intelligence.

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## Program Schedule

### *Day 1: Fundamentals of Machine Learning*

The session began with an introduction to machine learning by the resource team from Eduxlabs. Key topics included:

- Overview of Artificial Intelligence and Machine Learning
- Categories of Machine Learning: Supervised, Unsupervised, and Reinforcement Learning
- Applications of Machine Learning in various industries

The session emphasized building a solid theoretical foundation.

### **Day 2: Data Preprocessing and Feature Engineering**

The second day focused on the critical pre-implementation steps of machine learning. Topics included:

- Data collection and cleaning techniques
- Handling missing data and outliers
- Feature selection and dimensionality reduction techniques

Participants gained insights into transforming raw data into actionable formats for machine learning models.

### *Day 3: Algorithms and Model Development*

This session introduced essential algorithms such as:

- Linear Regression
- Logistic Regression
- Decision Trees and Random Forests
- Support Vector Machines (SVM)

Hands-on demonstrations were conducted using Python, showcasing how to implement these algorithms from scratch.

#### *Day 4: Advanced Concepts*

Advanced topics discussed included:

- Neural Networks and Deep Learning
- Overfitting and Underfitting
- Hyperparameter tuning
- Model evaluation metrics

Participants were introduced to libraries like Scikit-learn, TensorFlow, and Keras for implementing complex models.

#### *Day 5: Capstone Projects and Q&A*

The final day involved interactive project-based learning, where students worked on real-world datasets. Key activities included:

- Designing and training models
- Evaluating model performance
- Presenting findings to peers and instructors

The day concluded with a Q&A session, allowing students to clarify doubts and discuss career opportunities in machine learning.

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#### Outcomes

1. Students gained a comprehensive understanding of machine learning fundamentals and practical implementations.
  2. Participants were able to preprocess datasets, implement algorithms, and evaluate machine learning models effectively.
  3. The program inspired students to explore further learning and research in machine learning and related fields.
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### Feedback and Appreciation

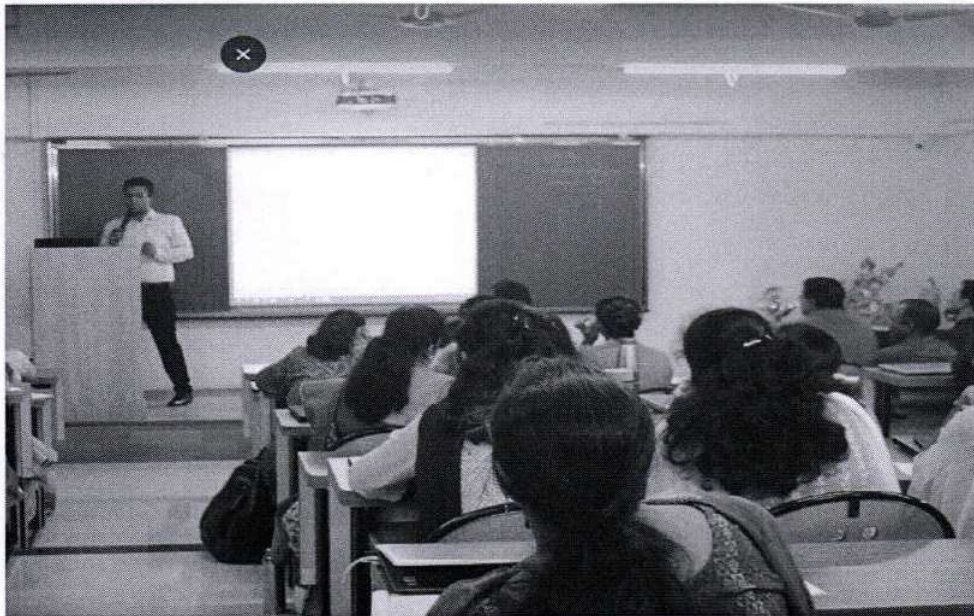
The program received overwhelmingly positive feedback from participants. They appreciated the clarity of explanations, practical demonstrations, and interactive approach of the resource persons. The efforts of the coordinators and faculty members were instrumental in ensuring the smooth conduct of the event.

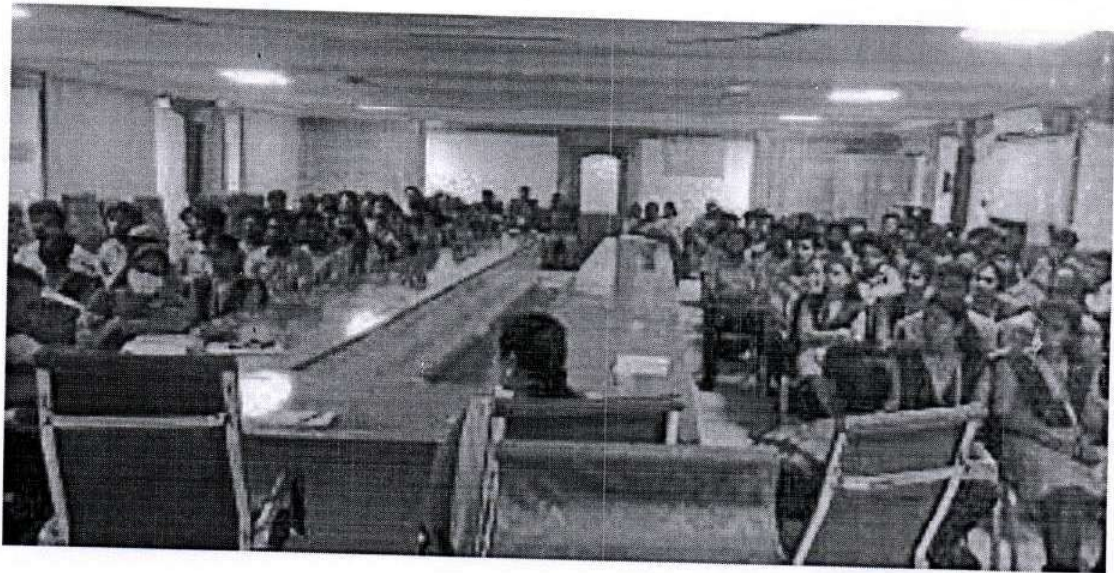
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### Acknowledgment

The Department of IT extends its gratitude to Eduxlabs & Team for their expertise and engaging sessions. Special thanks to Dr. J. Velmurugan, Head of the Department, for his guidance and support in organizing the training. The dedication of the faculty coordinators ensured the event's success, fostering a positive learning experience for all participants.

### Screenshot





  
HoD-IT