

Capacity Development and skills Enhancement Activity

AWARENESS OF TRENDS IN TECHNOLOGY

MACHINE LEARNING

Website : www.rgceetpdy.ac.in, www.rgceet.edu.in



RAJIV GANDHI COLLEGE OF ENGINEERING AND TECHNOLOGY

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(Sponsored by Sri Balaji Educational and Charitable Public Trust)

Pondy - Cuddalore Main Road, Kirumampakkam, Puducherry - 607 403.

31.05.2021

From

Mrs.D.Maladhy

Department of Information Technology

Rajiv Gandhi College of Engineering and Technology

Kirumampakkam, Puducherry - 607 403.

To

The Principal

Rajiv Gandhi College of Engineering and Technology

Kirumampakkam, Puducherry - 607 403.

Through

Head of the Department

Department of IT

Respected Sir,

Subject: Permission to conduct seminar reg.,

This is to inform you that, our department has planned to conduct a seminar on "Machine Learning" as part of the Awareness of trends in Technology. The seminar is planned to conduct for II, III and IV year students. I kindly request your permission to conduct this seminar on 10.06.2021 during 2020-21 even semester. Thank you for your consideration and co-operation.

Thanking you,

Yours sincerely,

[Signature]
Mrs.D.Maladhy

Coordinator

forwarded to the Principal!
R. V. R. K.

[Signature]
Head of the Department
Department of Information Technology
Rajiv Gandhi College of Engineering and Technology
Pondy-Cuddalore Main Road, Kirumampakkam, Puducherry-607 403.

[Signature]
Dr. E. VIJAYAKRISHNA RAPAKA
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No: RGCET/IT/Circular/2020-21/SEM O1

07.06.2021

CIRCULAR

I am delighted to inform you that our department will be conducting a seminar on "Machine Learning" as part of the Awareness of Trends in Technology series. This seminar is scheduled on 10.06.2021 and is intended for II, III, and IV-year students during the 2020-21 even semester.

I encourage all students to attend this seminar to gain valuable insights into machine learning and its applications. Your participation will be greatly beneficial in enhancing your understanding of this rapidly evolving field.

R. Lakshmi
HOD/IT

Copy to:

1. Circulate to all IT students
2. The File

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Department of Information Technology
Rajiv Gandhi College of Engineering and Technology
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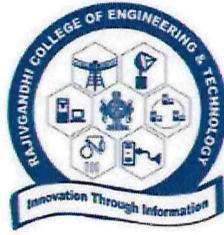
I year :- Pavithra.R

III year :- Hendatha.A.

IV year :- Sweetha

E. Vijayakrishna Rapaka
Dr. E. VIJAYAKRISHNA RAPAKA
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RAJIV GANDHI COLLEGE OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF INFORMATION TECHNOLOGY
ORGANIZES

AWARENESS OF TRENDS IN TECHNOLOGY ON
MACHINE LEARNING

DATE 10-06-2021

TIME 11:00 AM TO 1.00 PM

RESOURCE PERSON
JEGAN.D ,TCS

DR E.VIJAYAKRISHNA RAPAKA
PRINCIPAL
RG CET

DR.K.AYYAPPAN
VICE PRINCIPAL
RG CET

MR.R VINOTH KUMAR
HOD IT
RG CET

CO-ORDINATOR
MRS.D.MALADHY AP/IT

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DEPARTMENT OF INFORMATION TECHNOLOGY

MACHINE LEARNING SYLLABUS

1. Introduction to Machine Learning

- Definition and scope of machine learning
- Types of machine learning: Supervised, unsupervised, and reinforcement learning

2. Core Concepts and Mathematical Foundations

- Features, labels, and datasets
- Basic linear algebra: Vectors and matrices

3. Programming and Tools for Machine Learning

- Introduction to Python programming for machine learning
- Essential libraries: NumPy, pandas, scikit-learn, TensorFlow, PyTorch
- Practical coding examples

4. Supervised Learning Algorithms

- Linear Regression: Concepts, mathematical formulation, implementation, and applications
- Logistic Regression: Basics, use cases, and practical considerations
- Decision Trees: Structure, benefits, and practical uses
- Ensemble Methods: Random Forests and Gradient Boosting

5. Unsupervised Learning Algorithms

- Clustering techniques: K-means clustering, hierarchical clustering
- Dimensionality reduction: Principal Component Analysis (PCA), t-SNE
- Real-world applications of unsupervised learning

6. Model Evaluation and Optimization

- Model evaluation metrics: Accuracy, precision, recall, F1-score, ROC-AUC
- Techniques for model validation: Train-test split, cross-validation
- Hyperparameter tuning: Grid search, random search, Bayesian optimization

7. Hands-On Mini Project

- Building a simple ML model: Data loading and preprocessing, model training, evaluation, and optimization

8. Q&A and Open Discussion

- Open floor for questions
- Interactive discussion on seminar topics


Co-Ordinator


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Head of the Department

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Schedule for Seminar in MACHINE LEARNING:

Session 1: Introduction to Machine Learning (11:00 AM - 11:15 AM)

Session 2: Core Concepts and Mathematical Foundations (11:15 AM - 11:30 AM)

Session 3: Programming and Tools (11:30 AM - 11:45 AM)

Session 4: Supervised Learning Algorithms (11:45 AM - 12:00 PM)

Break (12:00 PM - 12:05 PM)

Session 5: Unsupervised Learning Algorithms (12:05 PM - 12:20 PM)


Session 6: Model Evaluation (12:20 PM - 12:30 PM)

Session 7: Hands-On Mini Project (12:30 PM - 12:50 PM)

Session 8: Discussion and Q&A (12:50 PM - 1:00 PM)


Co-Ordinator


Head of the Department


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DEPARTMENT OF INFORMATION TECHNOLOGY

Machine Learning Seminar Report

On 10.06.2021, a seminar on "Machine Learning" was conducted for II, III, and IV-year students. The seminar aimed to provide a comprehensive overview of machine learning concepts, practical tools, and applications in the field.

Content Overview

The seminar began with an introduction to machine learning, defining its scope and exploring the various types, including supervised, unsupervised, and reinforcement learning. Core concepts such as features, labels, datasets, and basic mathematical foundations like vectors and matrices were covered.


Participants were introduced to Python programming for machine learning, focusing on essential libraries and frameworks such as NumPy, pandas, scikit-learn, TensorFlow, and PyTorch. Practical coding examples demonstrated how to use these tools effectively.


The session then explored supervised learning algorithms, including Linear Regression, Logistic Regression, Decision Trees, and Ensemble Methods like Random Forests and Gradient Boosting. Following this, unsupervised learning algorithms were discussed, covering clustering techniques such as K-means and hierarchical clustering, as well as dimensionality reduction methods like PCA and t-SNE.

Model evaluation techniques were explained, including metrics such as accuracy, precision, recall, F1-score, and ROC-AUC. Methods for validating and optimizing models, such as train-test split, cross-validation, and hyperparameter tuning, were also addressed.

A hands-on mini project allowed participants to build a simple ML model, encompassing data loading, preprocessing, model training, and optimization. The seminar concluded with a discussion and Q&A session, providing an opportunity for participants to ask questions, discuss topics in more detail, and gain further insights from experts.


Co-Ordinator


Head of the Department


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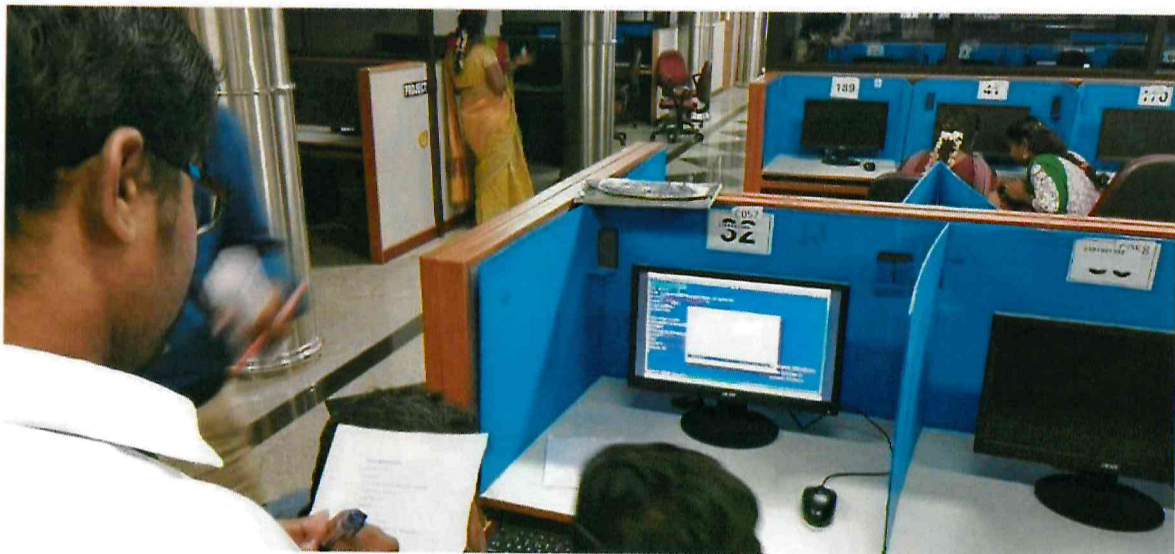
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PHOTOGRAPHS FOR SEMINAR IN MACHINE LEARNING



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LIST OF ENROLLED STUDENTS

Name of the Program : Machine Learning

Date of the Program : 10.06.2021

S.no	Reg.no	Name of the Student	Year
1	19TE0203	BALAJI.S	II
2	19TH0251	ADHIMOORTHY S	II
3	19TH0252	ANUSHAHARANI V	II
4	19TH0253	BHUVANESHWAR K	II
5	19TH0254	CHANDIRALEHA V	II
6	19TH0255	CHITRA KALA SHARMA P	II
7	19TH0256	DHANALAKSHMI P	II
8	19TH0257	DHANASEENUVASAN D	II
9	19TH0258	DHANUSRI A	II
10	19TH0259	DURGA DEVI D	II
11	19TH0260	HARI PRASAD S	II
12	19TH0261	HASSEN KHAN Z	II
13	19TH0262	HEMA P	II
14	19TH0263	HUMRUTH SS	II
15	19TH0264	ILAVAZHUTHI T	II
16	19TH0265	JAYAPRATHAB S	II
17	19TH0266	JAYASHREE S	II
18	19TH0267	KARTHIKEYAN M	II
19	19TH0268	KARTHIKEYAN P	II


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20	19TH0269	KRISHNA KUMAR S	II
21	19TH0270	MANIKANDAN V	II
22	19TH0271	NITHIYALAKSHMY R	II
23	19TH0272	PAVITHRA R	II
24	19TH0273	PRITHIGA T	II
25	19TH0274	PRIYADHARSHINI K	II
26	19TH0275	RAVINDIRAN M	II
27	19TH0276	RIYASEN V	II
28	19TH0277	RUTHRAMOORTHY R	II
29	19TH0278	SARTHIKA M	II
30	19TH0279	SHIVARANJANI A	II
31	19TH0280	SIDDHANANDAM M	II
32	19TH0281	SORNA C	II
33	19TH0282	SUBHA V	II
34	19TH0283	SUNDARALINGAM S	II
35	19TH0284	SUNENDHAR B	II
36	19TH0286	SVEDHA T	II
37	19TH0287	THAMIZHARASAN K	II
38	19TH0288	THIRUVARASAN T	II
39	19TH0289	VAISHNAVI C	II
40	19TH0290	VARADHA RAJAN S	II
41	19TH0291	VASAN S	II
42	19TH0292	VIGNESHKUMAR T	II
43	19TH0293	VISHWA V	II
44	19TH0294	VISHWA PRIYA AM	II
45	18TC0311	HEMALATHA.A	III
46	18TD0324	KARAN KRISHNA KANTH K.G	III


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48	18TH0302	AGILA D	III
49	18TH0303	ARAVIND M	III
50	18TH0304	ARSHA V	III
51	18TH0305	BHARATH KUMAR K	III
52	18TH0306	FARHAANAH F	III
53	18TH0308	JAYAPRAKASH S	III
54	18TH0309	JEEVITHA M	III
55	18TH0310	JOSEPHRAJ A	III
56	18TH0312	KALIVELA KARL AMARTHYA	III
57	18TH0313	KARTHIK SELVAN S	III
58	18TH0314	KARTHIKEYAN M	III
59	18TH0315	KAVIPRIYA A	III
60	18TH0316	MOHAMED THOFITH C	III
61	18TH0317	MUHAMAD SAJITH M	III
62	18TH0319	PRAVEEN RAJA K	III
63	18TH0320	PRAVEENA M	III
64	18TH0321	PREETHI V	III
65	18TH0322	PRIYANGA K	III
66	18TH0323	RAKSHANA R	III
67	18TH0325	SACHUTHA D	III
68	18TH0326	SANGEETHA G	III
69	18TH0327	SARUMATHI M	III
70	18TH0328	SASIKUMAR R	III
71	18TH0329	SAVITHA S	III
72	18TH0330	SIVAKALAI K	III
73	18TH0331	SOWNDARYA A	III

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74	16TH0418	MARAN R	IV
75	17TD0477	VENKATESHWARAN R	IV
76	17 TH0254	JOSHUA JASMINE .N	IV
77	17TH0401	AKASH S	IV
78	17TH0402	ALEXANDER S	IV
79	17TH0403	ARCHANA S	IV
80	17TH0404	ARTHI KT	IV
81	17TH0405	BALAJI R	IV
82	17TH0406	BUDDHI PRASATH SHARMA P	IV
83	17TH0407	DHIVYA DHARSHINI B	IV
84	17TH0408	JEROLD A	IV
85	17TH0409	KAMALI B	IV
86	17TH0410	KAMALI S	IV
87	17TH0411	KANMANI T	IV
88	17TH0412	KARTHIK B	IV
89	17TH0414	NANDHINI M	IV
90	17TH0415	NATARAJAN A	IV
91	17TH0416	NIRMALADEVI G	IV
92	17TH0417	PRAVEEN P	IV
93	17TH0418	PRAVEENA V	IV
94	17TH0419	RAMYA H	IV
95	17TH0420	RAVITHA V	IV
96	17TH0423	SWETHA V	IV
97	17TH0424	SYED JUNAIDH AHAMED A	IV
98	17TH0425	TAMIL PONNI R	IV
99	17TH0426	THIRUMARAN N	IV
100	17TH0427	VENKATRAMAN P	IV


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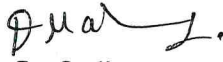
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102	17TH0429	VIGNESHWARAN D	IV
103	17TH0430	VISHNU V	IV


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