

Department of Computer Science and Engineering

National Institute of Technology, Calicut

Winter Semester 2023-'24

CS4092D Machine Learning Laboratory

Course Faculty : Dr. Jayaraj P B (jayarajpb@nitc.ac.in) and

Dr. Pournami P N(pournamipn@nitc.ac.in)

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1 Course Outcomes

- **CO1:-** Design and implement various machine learning algorithms.
- **CO2:-** Compare and analyze the performance of various machine learning techniques for domain specific applications.

2 Lecture

Lecture Hours : T1,T2 slots (Friday 9:00 AM - 12:00 PM and 2:00 PM - 05:00 PM)

3 General Instructions

- Relative Grading policy is followed for the course.
- All issues regarding valuation of exams must be resolved within one week after the marks are announced.
- Absence for exams/assignments/quizzes without prior permission from the instructor will be equivalent to zero marks in the corresponding exam/assignment/quiz.
- There will be no makeup exam except in case of genuine reason. In the event of such exceptional cases, the student must discuss the matter with the instructor and must get permission at least one day before the date of exam.
- 80% attendance is compulsory for writing the end semester exam.
- No compromise whatsoever is tolerated on issues of academic integrity. Students may refer to the department document on academic integrity - <http://minerva.nitc.ac.in/cse/sites/default/files/attachments/news/Academic-Integrity.pdf>.

4 Course Plan and Marks Splitup

Theory (13 Hours) : Introduction to Python, Fundamentals of Machine Learning, Linear Regression, Logistic Regression, Decision Trees, SVM, Random Forest, ANN, CNN.

Lab (39 Hours) :

Week#	Topic	Marks
1	Introduction to Python	
2	Linear Regression	
3	Linear and Non-linear Classifiers	
4	Test 1	20
5	Decision Tree ,RF and SVM	
6	Quiz	20
7	Artificial Neural Network	
8	Test 2	20
9	CNN and Deep Learning	
10	End semester Exam	30
11	Daily Evaluation	10
	Total	100

5 Contact details of Faculty / Teaching Assistants

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6 References

1. Yuxi(Hayden) Liu, Python Machine Learning by Example, Packt, 2017.
2. C. M. Bishop, Pattern Recognition and Machine Learning, Springer, 2006.
3. Ian Goodfellow, Yoshua Bengio, and Aaron Courville, Deep Learning (Cambridge, MA: MIT Press, 2017)
4. Internet Sources