



# GURU NANAK INSTITUTE OF TECHNOLOGY

www.gnithyd.ac.in

**City Office:** B2, 2<sup>nd</sup> Flr, Above Bata, Vikrampuri Colony, Karkhana Road, Secunderabad-50009, Telangana, Ph: +91-40-6632 3294, 6517 6117, Fax: +91-40-2789 2633

**Campus:** Ibrahimpatnam, R.R. District, Hyderabad-501506, Telangana, India. Ph: (0/95) 8414-20 21 20/21

## DEPARTMENT OF INFORMATION TECHNOLOGY

Date: 30-09-2016

### CIRCULAR

Technical Training for IV B. Tech students are starting from 10<sup>th</sup> October, 2016 onwards. All HODs and Placements coordinators have to manage the trainings and ensure 95% attendance all through the sessions.

All Mentors need to send the compiled feedback report to Dr. Madhusudhana, HOD at [hodit.gnit@gniindia.org](mailto:hodit.gnit@gniindia.org) daily.

Mentors are advised to collect PNR (Students, who are not participating in training).

Agenda:

Machine Learning.

HOD - IT  
Head of the Dept - IT  
Guru Nanak Institute of Technology  
Khanapur, Ibrahimpatnam,  
R.R. Dist - 501 506



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campus to become  
 Microsoft  
GOLD PARTNER

## MACHINE LEARNING SYLLABUS

SNO.	TOPICS COVERED	DURATION (in hours)
1	Basics - Supervised, unsupervised, reinforcement, Bias-variance trade-off, Overfitting, underfitting	3
2	Gradient descent - batch, stochastic	3
3	Linear discriminant analysis (LDA), Principal Component Analysis(PCA)	3
4	<b>Learning Vector Quantization (LVQ)</b>	3
5	Regularization methods:- Ridge, LASSO, Kernel smoothing methods	3
6	Ensemble learning - Bagging (bootstrap aggregation), boosting, stacking, blending	3
7	Ordinary least squares, K-fold cross validation	3
8	Multivariate Adaptive Regression Splines(MARS)	3
9	NLP - Word sense disambiguation, Pronoun resolution, Machine translation, Tokenization, Regular expressions	3
10	Deep Learning - Neural Networks, Bayesian neural nets, Deep Boltzmann, Machine(DBM), Deep Belief Networks(DBN), Convolutional Neural Networks	3
11	Algorithms - Linear regression: Usually performed through OLS, Logistic regression, Naive Bayes, K-Nearest Neighbors, K means clustering	3
12	Hypothesis testing, seedasticity	3

*gk*  
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## DEPARTMENT OF INFORMATION TECHNOLOGY MACHINE LEARNING REGISTERED STUDENTS

S.No	H. T. No.	NAME OF THE STUDENT
1	15831A1201	ALMALE MOUNIKA
2	15831A1202	ANDE ARUNKUMAR
3	15831A1203	BANOTH SRI HARI
4	15831A1204	BASHEERABAD SOURABKUMAR
5	15831A1205	BHANDARI ROHAN GOUD
6	15831A1206	BINGI SWATHI
7	15831A1207	BITTU MANEESHA
8	15831A1208	CHALLA MANOJ
9	15831A1209	CHEDIDEEP MOUNIKA
10	15831A1210	CHEPURI RAKESH
11	15831A1211	DEEPIKA SURYAN
12	15831A1212	DHADIGEVAR GNANESHWAR REDDY
13	15831A1213	DONTHINENI SUKESH RAO
14	15831A1214	DONTHULA SAI DEEPIKA
15	15831A1215	GAJULA DEEPTHI PRIYA
16	15831A1216	GADAGOJU ABHILASH
17	15831A1217	GADE MANIMALA
18	15831A1218	GANGUPAMU SAI KUMAR
19	15831A1219	GATTU MONIKA
20	15831A1220	GOPU BALA LIKHITHA CHANDANA
21	15831A1221	GOUTE BHARATH
22	15831A1222	GOVINDAPURAM JYOTHIRMAYEE
23	15831A1223	A HARSHITHA
24	15831A1224	IBRAHIM ARAVIND
25	15831A1225	JENNE SAIKRISHNA YADAV
26	15831A1226	JETALA PRAVALIKA
27	15831A1227	JETAVATH BHASKAR
28	15831A1228	KANUKUNTLA RISHI
29	15831A1229	KARAN ANNAMANENI
30	15831A1230	KASAM NITHYA
31	15831A1231	KASI SANDEEP BABU
32	15831A1232	KASULA NANDINI
33	15831A1233	KODITALA YASHWANTH
34	15831A1234	MADA ROHINI
35	15831A1235	MANCHALA SHIVA SHANKAR SRIKAR
36	15831A1236	M REVANTH REDDY


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37	15831A1238	MOHAMMED AKBAR UDDIN
38	15831A1239	MOTHE SAHITH
39	15831A1240	MYADAM SAI NIKHIL
40	15831A1241	NALLAN ADITYA PRANEETH
41	15831A1243	P SAI BHARGAV
42	15831A1244	PAPPULA AKHIL KUMAR
43	15831A1245	PARUPALLI LAXMI BHUVANA
44	15831A1246	PAVAN CHOUDHARY
45	15831A1247	PENDYALA SAIKUMAR
46	15831A1248	PISERLA GANGA BHAVANI
47	15831A1249	POOTAPU ROHITH REDDY
48	15831A1250	SARANGI RAJU
49	15831A1251	SWETHA.S
50	15831A1252	SONALI KASTOORI
51	15831A1253	SUCHIT VEMAVARAPU
52	15831A1254	SUDEEP
53	15831A1255	THADISINA RISHIKA REDDY
54	15831A1257	VELNENI SHIRISHA
55	15831A1258	YELISHETTY REVANTH ATHREYA

  
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## DEPARTMENT OF INFORMATION TECHNOLOGY MACHINE LEARNING REGISTERED STUDENTS MARKS

S.No	H. T. No.	NAME OF THE STUDENT	MARKS(MAX.MARKS.20)	REMARKS
1	15831A1201	ALMALE MOUNIKA	18	PASS
2	15831A1202	ANDE ARUNKUMAR	15	PASS
3	15831A1203	BANOTH SRI HARI	17	PASS
4	15831A1204	BASHEERABAD SOURABKUMAR	14	PASS
5	15831A1205	BHANDARI ROHAN GOUD	19	PASS
6	15831A1206	BINGI SWATHI	14	PASS
7	15831A1207	BITTU MANEESHA	15	PASS
8	15831A1208	CHALLA MANOJ	18	PASS
9	15831A1209	CHEDIDEEP MOUNIKA	15	PASS
10	15831A1210	CHEPURI RAKESH	16	PASS
11	15831A1211	DEEPIKA SURYAN	8	FAIL
12	15831A1212	DHADIGEVAR GNANESHWAR REDDY	15	PASS
13	15831A1213	DONTHINENI SUKESH RAO	12	PASS
14	15831A1214	DONTHULA SAI DEEPIKA	14	PASS
15	15831A1215	GAJULA DEEPTHI PRIYA	8	FAIL
16	15831A1216	GADAGOJU ABHILASH	19	PASS
17	15831A1217	GADE MANIMALA	14	PASS
18	15831A1218	GANGUPAMU SAI KUMAR	15	PASS
19	15831A1219	GATTU MONIKA	18	PASS
20	15831A1220	GOPU BALA LIKHITHA CHANDANA	20	PASS
21	15831A1221	GOUTE BHARATH	16	PASS
22	15831A1222	GOVINDAPURAM JYOTHIRMAYEE	15	PASS
23	15831A1223	A HARSHITHA	15	PASS
24	15831A1224	IBRAHIM ARAVIND	12	PASS
25	15831A1225	JENNE SAIKRISHNA YADAV	18	PASS
26	15831A1226	JETALA PRAVALIKA	14	PASS
27	15831A1227	JETAVATH BHASKAR	13	PASS
28	15831A1228	KANUKUNTALA RISHI	15	PASS
29	15831A1229	KARAN ANNAMANENI	7	FAIL
30	15831A1230	KASAM NITHYA	19	PASS
31	15831A1231	KASI SANDEEP BABU	5	FAIL
32	15831A1232	KASULA NANDINI	14	PASS
33	15831A1233	KODITALA YASHWANTH	16	PASS
34	15831A1234	MADA ROHINI	15	PASS



35	15831A1235	MANCHALA SHIVA SHANKAR SRIKAR	15	PASS
36	15831A1236	M REVANTH REDDY	12	PASS
37	15831A1238	MOHAMMED AKBAR UDDIN	18	PASS
38	15831A1239	MOTHE SAHITH	7	FAIL
39	15831A1240	MYADAM SAI NIKHIL	15	PASS
40	15831A1241	NALLAN ADITYA PRANEETH	15	PASS
41	15831A1243	P SAI BHARGAV	17	PASS
42	15831A1244	PAPPULA AKHIL KUMAR	8	FAIL
43	15831A1245	PARUPALLI LAXMI BHUVANA	14	PASS
44	15831A1246	PAVAN CHOUDHARY	15	PASS
45	15831A1247	PENDYALA SAIKUMAR	15	PASS
46	15831A1248	PISERLA GANGA BHAVANI	7	FAIL
47	15831A1249	POOTAPU ROHITH REDDY	1	PASS
48	15831A1250	SARANGI RAJU	16	PASS
49	15831A1251	SWETHA.S	15	PASS
50	15831A1252	SONALI KASTOORI	15	PASS
51	15831A1253	SUCHIT VEMAVARAPU	12	PASS
52	15831A1254	SUDEEP	18	PASS
53	15831A1255	THADISINA RISHIKA REDDY	15	PASS
54	15831A1257	VELNENI SHIRISHA	15	PASS
55	15831A1258	YELISHETTY REVANTH ATHREYA	7	FAIL

TOTAL NUMBER OF STUDENTS REGISTERED:55

TOTAL NUMBER OF STUDENTS PASSED:47

TOTAL NUMBER OF STUDENTS FAILED:08

*Me*  
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## MACHINE LEARNING QUESTION PAPER

Duration: 120 Mins

5 x 4 = 20 Marks

ALL QUESTIONS CARRY EQUAL MARKS

Answer the following

1. A dealer has a warehouse that stores a variety of fruits and vegetables. When fruit is brought to the warehouse, various types of fruit may be mixed together. The dealer wants a model that will sort the fruit according to type. Justify with reasons how machine learning model is efficient compared to feature based classification technique.
2. Describe the two error functions that are used for neural networks. Suppose we are training a neural network for binary classification, justify the type of error function which is suitable to solve the problem.
3. Develop a Q learning task for recommendation system of an online shopping website. What will be the environment of the system? Write the cost function and value function for the system.
4. Determine the Principal Components for the given 2-Dimensional dataset.  
(1, 2), (2, 4), (3, 6).
5. Why it is necessary to estimate the accuracy of hypothesis. Explain procedure to estimate difference in error between two learning methods.

  
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## SUMMARY REPORT OF MACHINE LEARNING

GNIT is conducting certificate course on Machine learning from 10-10-2016 to 22-10-2016. The iterative aspect of machine learning is important because as models are exposed to new data, they are able to independently adapt. They learn from previous computations to produce reliable, repeatable decisions and results. It's a science that's not new but one that has gained fresh momentum.

The key objectives of this course are, to be able to:

Identify the characteristics of datasets and compare the trivial data and big data for various applications. understand machine learning techniques and computing environment that are suitable for the applications under consideration.


Solve problems associated with batch learning and online learning, and the big data characteristics such as high dimensionality, dynamically growing data and in particular scalability issues.

Develop scaling up machine learning techniques and associated computing techniques and technologies for various applications.

Implement various ways of selecting suitable model parameters for different machine learning techniques.

Identify current real-world problems that can benefit from emerging machine learning techniques and the modern big data technologies.

Design machine learning and associated algorithms that can address one of the real-world problems that they selected for the experiment.

  
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