

# Course Name: Machine Learning, ML

About Course

Certificate Type

Toppers list

Statistics

## Machine Learning Course Introduction



### Course abstract

The scientific discipline of Machine Learning focuses on developing algorithms to find patterns or make predictions from empirical data. It is a classical sub-discipline within Artificial Intelligence (AI). The discipline is increasingly used by many professions and industries to optimize processes and implement adaptive systems. The course places machine learning in its context within AI and gives an introduction to the most important core techniques such as decision tree based inductive learning, inductive logic programming, reinforcement learning and deep learning through decision trees.

### Course Instructor

 Media Object

#### Prof. Carl Gustaf Jansson

Carl Gustaf Jansson is tenured Professor in Artificial Intelligence at the School of Electrical Engineering and Computer Science, KTH Royal Institute of Technology, Stockholm, Sweden. His research contributions are mostly in artificial intelligence, in particular Knowledge Representation and Machine Learning. Particular research interests are intelligent interfaces and ubiquitous computing.

More info (<https://www.kth.se/profile/cgja>)



### Teaching Assistant(s)

PRINCIPAL  
G. Narayanamma Institute of  
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(AUTONOMOUS)  
Shaikpet, Hyderabad - 500 104

anamika  
chhabra

ANAMIKA CHHABRA

PHD., IIT ROPAR

🕒 Course Duration : Feb-Apr 2019

📖 View Course (<http://archive.nptel.ac.in/courses/106/106/106106202/>)

📄 Syllabus (/content/syllabus\_pdf/106106202.pdf)

📅 Enrollment : 15-Nov-2018 to 25-Feb-2019

✍ Exam registration : 25-Feb-2019 to 19-Apr-2019

✍ Exam Date : 28-Apr-2019, 28-Apr-2019

12/8

PROFESSOR  
G. Narayana Murthy Institute of  
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# MACHINE LEARNING, ML

**PROF. CARL GUSTAF JANSSON**

School of Electrical Engineering and Computer Science  
KTH, The Royal Institute Of Technology

**TYPE OF COURSE** : Rerun | Elective | PG

**COURSE DURATION** : 8 weeks (21 Feb' 22 - 15 Apr' 22)

**EXAM DATE** : 24 Apr 2022

**PRE-REQUISITES** : Relevant applied math and statistics, core computer science

**INTENDED AUDIENCE** : Interested students

**INDUSTRIES APPLICABLE TO** : Broad industrial interest at present, i.e. for autonomous vehicles, robots, intelligent assistants and general datamining

**COURSE OUTLINE :**

The scientific discipline of Machine Learning focuses on developing algorithms to find patterns or make predictions from empirical data. It is a classical sub-discipline within Artificial Intelligence (AI). The discipline is increasingly used by many professions and industries to optimize processes and implement adaptive systems. The course places machine learning in its context within AI and gives an introduction to the most important core techniques such as decision tree based inductive learning, inductive logic programming, reinforcement learning and deep learning through decision trees.

**ABOUT INSTRUCTOR :**

Prof. Carl Gustaf Jansson is tenured Professor in Artificial Intelligence at the School of Electrical Engineering and Computer Science, KTH Royal Institute of Technology, Stockholm, Sweden. His research contributions are mostly in artificial intelligence, in particular Knowledge Representation and Machine Learning. Particular research interests are intelligent interfaces and ubiquitous computing.

**COURSE PLAN :**

**Week 1:** Introduction to the Machine Learning course

**Week 2:** Characterization of Learning Problems

**Week 3:** Forms of Representation

**Week 4:** Inductive Learning based on Symbolic Representations and Weak Theories

**Week 5:** Learning enabled by Prior Theories

**Week 6:** Machine Learning based Artificial Neural Networks

**Week 7:** Tools and Resources + Cognitive Science influences

**Week 8:** Examples, demos and exam preparations

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Roll No: NPTEL19CS35S61450818

To SHANTHI MUNAGANOORU  
G. NARAYANAMMA INSTITUTE OF TECHNOLOGY  
AND SCIENCE (FOR WOMEN)  
HYDERABAD



No. of weeks of NPTEL Courses	Equivalence of NPTEL course with regular FDP
4	$\frac{1}{2}$ FDP of one week
8	Full FDP of one week
12	$1\frac{1}{2}$ FDP

Duration of NPTEL course: 8 Weeks



# NPTEL-AICTE Faculty Development Programme



(Funded by the Ministry of HRD, Govt. of India)



This certificate is awarded to

**SHANTHI MUNAGANOORU**

for successfully completing the course

**Machine Learning, ML**

with a consolidated score of **46 %**

Prof. Andrew Thangaraj  
NPTEL Coordinator  
IIT Madras

(Feb-Apr 2019)

PRINCIPAL


G. Narayanamma Institute of  
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(AUTONOMOUS)  
Hyderabad - 500 104

Prof. Dileep N. Malkhede  
Advisor-I (Research, Institute & Faculty Development)  
All India Council for Technical Education

Roll No: NPTEL19CS35S61450818

To validate and check scores: <http://nptel.ac.in/noc>

The candidate has studied the above course through MOOCs mode, has submitted online assignments and passed proctored exams.  
This certificate is therefore acceptable for promotions under CAS as per AICTE notifications dated 24<sup>th</sup> July 2018, similar to other refresher / orientation courses.  
F.No. AICTE / RIFD / FDP through MOOCs / 2017-18



**G.NARAYANAMMA INSTITUTE OF TECHNOLOGY & SCIENCE (For Women)**  
**(AUTONOMOUS)**  
**Shaikpet, Hyderabad – 500104**

Department: Electronics and Communication Engineering

2018-19

REPORT

FDP on Machine Learning, ML

Date of program: 21-02-2019 to 15-04-2019

Resource person: Prof. Carl Gustaf Jansson

Carl Gustaf Jansson is tenured Professor in Artificial Intelligence at the School of Electrical Engineering and Computer Science, KTH Royal Institute of Technology, Stockholm, Sweden. His research contributions are mostly in artificial intelligence, in particular Knowledge Representation and Machine Learning. Research interests are intelligent interfaces and ubiquitous computing.

About the Program:

The program covers a wide range of topics, including:

- Foundations of Machine Learning: Introduction to ML, learning paradigms, supervised learning, unsupervised learning, reinforcement learning
- Machine Learning Algorithms: Decision trees, linear regression, logistic regression, support vector machines, neural networks, deep learning
- Machine Learning Applications: Image recognition, natural language processing, recommendation systems, fraud detection, anomaly detection
- Machine Learning Tools and Platforms: Python programming, TensorFlow, PyTorch.

This FDP helped in gaining a comprehensive understanding of machine learning and developing the skills necessary to contribute to this rapidly evolving field. And the program structure and expert instruction made to advance my skills and knowledge in machine learning



Signature of the Faculty member



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