

# Online Programme on Machine Learning

Statistical Tools for Machine Learning (May-Jun 2022)

Indian Statistical Institute, SQC & OR Unit, Hyderabad

**Programme:** Statistics plays a vital role in today's world of Artificial Intelligence and Machine Learning. Whether applications deal with big data or otherwise, basic tools applied there are the standard statistical theory and methods. Therefore, Learning and teaching them is crucial. The aim of this programme is to offer a crash course on some of the important topics (listed below) fundamental to the applications. The orientation of the course will be focused on providing important concepts (without getting into unnecessary theory) with practical applications.

**Course Details: Statistical Tools for Machine Learning**  
Machine Learning is the topic of the day in today's business world and the most sought-after subject. Massive migration is taking place from a variety of backgrounds into data science world. Many are trying to become data scientists/analysis without having proper background on the fundamental requirements of the subject. Against this backdrop, this course intends to provide the basic statistical technics and tools for Machine Learning. This program is approximately of 40 hours duration.

**Course Content: Statistical Tools for Machine Learning:** Introduction to Machine Learning, Statistical modelling, assessing model accuracy, brief introduction to handling statistical data using Python, linear regression, classification, logistic regression, discriminant analysis, k-nearest neighborhoods, cross validation and bootstrapping, linear model selection and regularization, polynomial regression, regression

splines, generalized additive models, tree-based methods – decision trees, bagging, random forests, boosting, support vector machines; Unsupervised learning – principal component analysis, clustering.

**Faculty:** Dr. G S R Murthy, Indian Statistical Institute

To facilitate wide participation, each session is replicated in two different time slots (see the schedule). Participants are required to choose one of the slots but are free to attend either or both sessions.

**Participants:** Participants are expected to have mathematics background at 10+2 level.

**Course Fee:** Rs.6,000/- + GST @ 18% (Rs.7,080/-)

**Certification:**  
Participants will be issued a certificate of participation.

**Contact**  
For more details, contact:  
**Dr. G S R Murthy**, Professor, Indian Statistical Institute  
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**Shri K V Ramana**, Course Coordinator, ISI, Hyderabad  
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**Send your application by email along with payment details on or before April 30, 2022.**

## Program Schedule:

Session:	6Am - 7.30AM	Repeat session	3.30PM - 5PM				
Statistical Tools for Machine Learning	May-22						
	Mon	Tue	Wed	Thu	Fri	Sat	Sun
							1
	2	3	4	5	6	7	8
	9	10	11	12	13	14	15
	16	17	18	19	20	21	22
	23	24	25	26	27	28	29
	30	31					
	Jun-22						
	Mon	Tue	Wed	Thu	Fri	Sat	Sun
			1	2	3	4	5
	6	7	8	9	10	11	12
	13	14	15	16	17	18	19
	20	21	22	23	24	25	26
27	28	29	30				

1. Each lecture is taught in the morning session and the same is repeated in the afternoon session of the following day. A few sessions (about 5) will be of two hours duration. This is to cover the short fall.
2. Participants are free to attend one or both sessions. However, they have to register for either morning or afternoon sessions at the time of application.
3. If a session falls on a holiday, the session will be conducted the previous day.

All morning sessions are on Mondays, Wednesdays and Fridays

All afternoon sessions are on Tuesdays, Thursdays and Saturdays

# Application Form

Training Programme on Machine Learning  
**Statistical Tools for Machine Learning**  
Indian Statistical Institute, Hyderabad

**Last date for registration: April 30, 2022.**

**Name:**

**Date of Birth:**

**Email:**

**Mobile:**

**Mailing address:**

**Organization:**

**Designation:**

**Nature of participant (put a tick in the appropriate box):**

**Academic**

**Non-Academic**

**Session Timings Registered for (put tick mark for only one):**

**Morning (6 am to 7.30 am)**

**Afternoon (3.30 pm to 5 pm)**

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## Payment Particulars

Amount : Rs.

DD No. / NEFT No.

Bank:

Date:

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Date:

Signature :

**Application must be submitted by email on or before April 30, 2022 along with payment details.**

**Mode of Payment: Pay the fee in the form of Demand Draft drawn in the favour of "Indian Statistical Institute, Payable at Hyderabad" or Online (NEFT) Bank Transfer (Name of the Account holder: Indian Statistical Institute, Current A/C No: 30451010000079 IFSC Code: CNRB0013045)**