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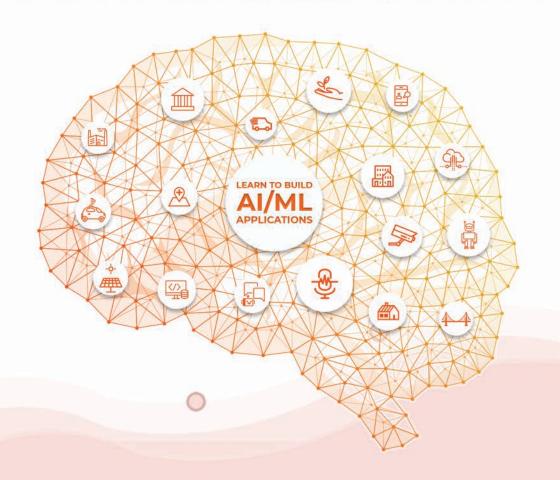
MACHINE LEARNING LAB

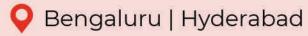
IN ASSOCIATION WITH TALENTSPRINT

**PRESENTS** 

**FOUNDATIONS OF** 

# ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING



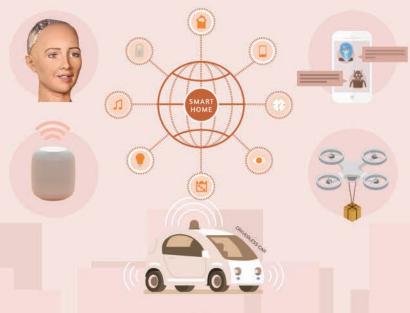


## "Al will add 2.3 million jobs by 2020"

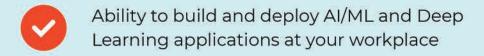
#### ~ Gartner

Tech giants are rapidly migrating to an Al-first world. The industry is getting disrupted. It is very obvious where tomorrow's jobs are going to be. Upgrading your expertise in Al/ML is the best way to sustain your career growth and professional stability. In the words of famous Jack Trout, it is time to 'differentiate or die'.

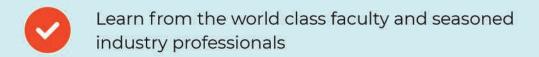
And, whether we are aware or not, every aspect of our life is touched by AI/ML applications like Shopping
Assistants, Spam Filters, Home Automation, Chat Bots,
Self Driving Cars, Surgical Bots, Robo Advisors, Algorithmic
Trading, Robotic Process Automation, Speech
Recognition, Real-time language translation, Computer
Vision, Data Mining, and a whole lot more.

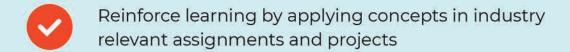


## **Program Outcomes**











## Women Professionals Scholarship

To improve the gender ratio in the industry, we encourage more women to enroll for the program through this Scholarship. All you need to do is specify this Scholarship preference in your Application details.



#### Young Professionals Scholarship

Anyone with upto 3 years of experience is entitled to Young Professional Scholarship. We encourage more youth to enroll for the program through this Scholarship. All you need to do is specify this Scholarship preference in your Application details.



#### **Corporate Enquiries**

Contact Abijith @ 82977-67979



## Program Curriculum

This program comprises of three modules:

#### MODULE 1

#### Introduction to Machine Learning

- 1. Motivation
- 2. The Classification Problem
- 3. Representation of World
- 4. Visualization and Unsupervised Learning
- 5. Data preparation with three problems

Duration: 4 weeks

#### **MODULE 2**

#### Supervised Learning

- 6. Simple Linear Algorithms and Training
- 7. Linear non-separability and More Algorithms
- 8. Decision Trees
- 9. Training, Validation and Testing
- 10. Support Vector Machines

Duration: 4 weeks

#### MODULE 3

#### Introduction to Deep Learning

- 11. Introduction to DL and Toolchain
- 12. Gradient Descent and Backpropagation
- 13. MLP as a classifier
- 14. Convolutional Neural Networks
- 15. Recurrent Neural Networks

Duration: 4 weeks

#### Program Highlights

- Hybrid Program
- 12 Weekends Contact Sessions
- 24\*7 Online Labs
- Action Workshops by Guest Speakers



## **Experiential Learning**

In the practical sessions you will work on a carefully selected set of problems and case studies covering the following topics, tools and techniques.

- ✓ Simple Classification Problems
- k-NN Classifiers
- Features: Extraction, Normalization, Transformation
- Dimensionality Reduction
- Simple PCA
- ✓ Visualization: ISOMAP, tSNE
- k-Means
- Logistic Classifiers
- Linear Regression
- Gradient Descent
- Perceptrons and Simple Neural Networks
- Separability vs Non-separability
- Polynomial Regression
- Dealing with noise
- Training, Validation, Testing
- Overfitting
- Support Vector Machines

- Support Vector Machines
- pyTorch
- Convolutions, Tensors
- ✓ Multi-layer Perceptrons
- ✓ More on Gradient Descent
- ✓ CFARNet
- ✓ CNN, RNN
- Text Generation

### Learn from Leaders



Dr. C. V. Jawahar

Program Director and Lead Faculty

Amazon Chair Professor at IIIT-H ML Lab. Renowned Expert in Machine Learning and Optimization,

Document Image Analysis, and Computer Vision



Dr. Anoop M. Namboodiri

Lead Faculty

Associate Professor at IIIT-H ML Lab. Expert in Pattern Recognition and Machine Learning, Computer Vision, and Biometrics. Ph.D. from Michigan State University.



Asokan Pichai

Lead Faculty

Senior Vice President at TalentSprint. Industry
Instructor, Instructional Designer, and Programming Guru. Consults with FOSSEE at IIT Bombay on Python Courses.



Jayanth Rasamsetti

Lead Mentor

Principal AI/ML Scientist at TalentSprint. Worked with American Express and Siemens Research and Development. B.Tech from IIT-Madras and MS from Columbia University.

## Action Workshops by Guest Speakers

**Sundar Srinivasan** 

Microsoft

Dr. Kingshuk Banerjee

**IBM** 

**Feroze Mohammed** 

Hitachi

Ramesh Loganathan

IIIT

Dr. Santanu Paul

**TalentSprint** 

Nelle Varoquaux Berkeley



- Why IIIT-Hyderabad Machine Learning Lab AI/ML Program?
  - 1. IIIT-Hyderabad Machine Learning Lab is ranked No.1 among the other IIIT's in India. Machine Learning Lab of IIIT-H ML Lab is one of the best in the country.
  - 2. It is a class-room program assisted by highly proficient faculty team in the field of AI & ML.
  - 3. It is a fast and intense 12 Weekends program at a very competitive and affordable price compared to any other AI/ML programs.
  - 4. At the completion of this program, one will be able to build and deploy useful Machine learning applications.
  - 5. Certificate by IIIT-Hyderabad Machine Learning Lab.
- Who is this program meant for? What are the academic prerequisites for the program?

The program is intended for software professionals with at least a year of programming experience. The Program requires good grasp of mathematical concepts, specifically basic linear algebra, basics of statistics and probability, calculus and optimisation.

What is the total duration of the program?

The Program will be for 12 weekends. It will be divided into 3 modules of 48 hours each (i.e., 12 hours every weekend). A day long plenary workshop summarising and highlighting newer areas is planned at the end of the program.

Where will the lecture sessions be conducted?

The program will be conducted at 2 locations namely Hyderabad and Bengaluru.

Where will the lab sessions be conducted?

The program will be conducted at 2 locations namely Hyderabad and Bengaluru.

#### Do we need our own laptops?

Yes, the participants are required to carry their personal laptops. Exercises will be conducted on a cloud based platform.

#### Can we do the lab exercises from home?

Yes, one can attend the Lab exercises from home depending on your degree of comfort with the planned exercises. TalentSprint will be providing mentors for assistance so you can opt to come over or work on your own.

#### Will additional lab time be available?

In addition to weekend slots, additional lab times will be available from Monday to Friday between 18:00 hours - 20:00 hours. Mentors will also be available at these times.

#### Is any specific programming language experience required?

The Program will use Python 3 and various libraries. The necessary python skills can be easily picked up by anyone with programming experience in any language. Basic tutorial for introduction to the Python language will be organised by TalentSprint. Video lessons on Python for self study will also be made available.

#### How will the classes be scheduled?

The program has been divided in 3 modules of 48 hours each. There will be two lecture sessions every alternate Saturday of 3 hours each. You will also have a lab workshop of 6 hours every weekend (of which 3 hours will be facilitated). You will participate in Hackathon once a month and a seminar at the end of each module.

Module		Week1		Week 2		Week 3		Week 4	
		Saturday	Sunday	Saturday	Sunday	Saturday	Sunday	Saturday	Sunday
Module 1	FN	Lecture	Demo Lab	Indiv. Lab	Hackathon	Lecture	Demo Lab	Indiv. Lab	Seminar
	AN	Lecture	Indiv. Lab	Group Lab	Hackathon	Lecture	Indiv. Lab	Group Lab	Seminar
Module 2	FN	Lecture	Demo Lab	Indiv. Lab	Hackathon	Lecture	Demo Lab	Indiv. Lab	Seminar
	AN	Lecture	Indiv. Lab	Group Lab	Hackathon	Lecture	Indiv. Lab	Group Lab	Seminar
Module 3	FN	Lecture	Demo Lab	Indiv. Lab	Hackathon	Lecture	Demo Lab	Indiv. Lab	Seminar
	AN	Lecture	Indiv. Lab	Group Lab	Hackathon	Lecture	Indiv. Lab	Group Lab	Graduation

#### Are the classes online?

No, the master classes by IIIT-H ML Lab faculty are Instructor-led sessions planned at

mentioned locations. The Program also utilizes an LMS where additional material,

#### Can I access the labs after the Program?

You will have access to the LMS for a minimum period of 12 months, from program commencement.

#### Do we have Placement Support?

No, this is an intensive certificate program and no placement support will be offered.

#### Will there be a final examination?

The program is planned to have continuous assessment. The final grade will be determined on the basis of the best 25 scores out of 40 assignments.

#### What happens if I miss a Class?

It is recommended that one should not miss a class as 75% attendance is mandatory. In case it is unavoidable, one will have access to an Unedited version of the video recording of the class in the LMS, by the end of the day. The edited version will be posted to the LMS by end of day on Tuesday.

#### What happens if I miss a Lab?

Being an intensive program, it is not recommended to miss any lab session as 75% attendance is mandatory. In case a lab session is missed due to unavoidable circumstances, exercises are available on a cloud platform which can be accessed from home but facilitated lab sessions will not be available on the cloud platform so it is recommended to not miss any of these sessions.

#### What will be the batch size?

While the Master class will have a maximum strength of 250 participants the strength for lab exercise will be limited to 50 participants supported by a mentor.

#### Can I pay in installments?

Yes, the program fees can be paid in installments. We have partnered with Baiai

Finance Limited (BFL) for financing the program and they have provisioned

#### Loan Scheme-1:

The scheme is 0% interest over 10 equal installments, with 2 installments paid in advance.

For registrants the process will be as shared below:

As an example, for a Program Fee of ₹206,500/- the scheme will be as under: Program Fee (including GST) - ₹206,500

#### Step 1:

Register paying ₹11,800 (₹10,000 + 18% GST)

(₹175,000 + 18% GST)

#### Step 2:

Apply for Loan to BFL by providing necessary details

#### Step 3:

On Receipt of Approval of Loan you will get a LINK for payment of ₹30,267

#### Step 4:

Make payment of ₹30,267 to TalentSprint

#### Step 5:

Pay EMIs to Bajaj Finance @ ₹20,650 per month for 8 more months

#### Loan Scheme-2:

The scheme is 0% interest over 12 equal installments, with 4 installments paid in advance plus the margin fee amount.

For registrants the process will be as shared below:

## As an example, for a Program Fee of ₹206,500/- the scheme will be as under:

Program Fee (including GST) - ₹206,500 (₹175,000 + 18% GST)

#### Step 1:

Register paying ₹11,800 (₹10,000 + 18% GST)

#### Step 2:

Apply for ₹187,000 Loan to BFL by providing necessary details

#### Step 3:

On Receipt of Approval of Loan you will get a LINK for payment of ₹70,803/-

#### Step 4:

Make payment of ₹70,803 to TalentSprint other than initial registration amount paid

#### Step 5:

Pay EMIs to Bajaj Finance @ ₹15,584 per month for 8 more month

#### In case the loan is not approved, you will have 2 options:

A. Make payment on your own. Credit Card EMI schemes may be available

B. In case you are unable to get a loan or make the necessary payment, the Registration
Fee paid by you will be reimbursed.

Note: BFL will charge a loan processing fee of ₹767/- on each application which is payable via TalentSprint.

Are there any advanced programs after we complete this program?

The offered program is a Foundation Program and IIIT-H ML Lab plans to announce a series of advanced programs soon.

How will lab sessions be supported?

The lab sessions will be mentored by experienced AI, ML practitioners and researchers.

I am not from Hyderabad and Bengaluru. Am I eligible for this program?

You have to be physically present at the location for the Master Class and Labs respectively. So if you can travel every weekend to Hyderabad or Bengaluru then and only then you are eligible.

Could you shed some light on the past participation for the program?

The participants for the program have been from 127 different companies. The Average experience of the participants was around 7 years. <a href="https://www.talentsprint.com/aiml/report">https://www.talentsprint.com/aiml/report</a>

What is the Program Fee?

The Program fee is ₹2,00,000/-. However, there is an EARLY BIRD OFFER, details of which are as under:

Bengaluru Batch Starts June 23				
Early Bird 1 Closing Soon	₹1,60,000 + Taxes			
Early Bird 2	₹1,80,000 + Taxes			
Regular	₹2,00,000 + Taxes			
Hyderabad Batch Starts June 16				
Early Bird 1 Closed	₹1,60,000 + Taxes			
Early Bird 2 Closing Soon	₹1,80,000 + Taxes			
Regular	₹2,00,000 + Taxes			
Women Professionals Scholarship Fee	₹1,35,000 + Taxes			
Young Professionals Scholarship Fee	₹1,35,000 + Taxes			
Corporate Enquires Contact Abijith	@ 82977-67979			

Is the fee refundable?

Registration Fee is non refundable except in case of loans where the loan is not approved by the financier.

Total Fee is also non refundable.

#### What is the role of TalentSprint in this Program?

TalentSprint is a new-age digital platform to transform the lives of young and experienced professionals. Its hybrid bootcamps empower professionals with high end disruptive technologies. The AI-powered digital platform enables professionals to get ahead and stay ahead in a hypercompetitive world. Funded by Nexus

Venture Partners and the National Skill Development Corporation, TalentSprint aims to empower ONE MILLION professionals by 2020. For more information

#### Who are the Faculty Members for the Program?



**Dr. C. V. Jawahar**Program Director and Lead Faculty



Dr. Anoop M. Namboodiri Lead Faculty



Asokan Pichai Lead Faculty



Jayanth Rasamsetti Lead Mentor

What is the Start Date for the Program?

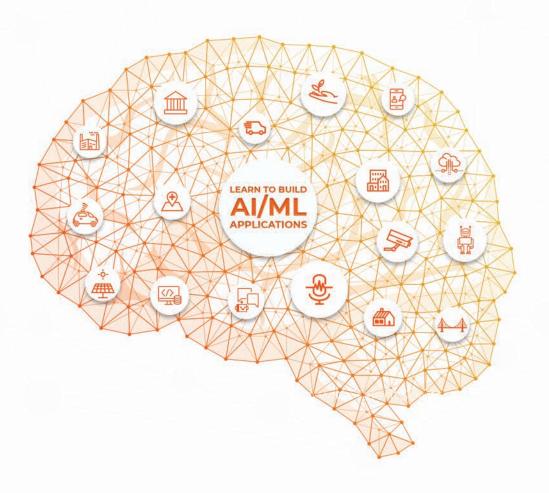
Batch start dates **Hyderabad** June 16, 2018 **Bengaluru** June 23, 2018



HYDERABAD

#### MACHINE LEARNING LAB

IN ASSOCIATION WITH TALENTSPRINT







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