



BMS

INSTITUTE OF TECHNOLOGY AND MANAGEMENT

Avalahalli, Doddaballapur Main Road, Bengaluru – 560064

DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS

31.7.2020

**5-Day Online Faculty Development Programme on Machine Learning (18MCA53)
(27th July to 31st July 2020)
(In association with Computer Society of India)**

A Report

A 5-day FDP on Machine Learning was organized by the Department of MCA from 27th July to 31st July 2020 in association with Computer Society of India. Machine Learning is introduced for the first time in the MCA Curriculum by VTU. Hence this FDP will help all the faculty members to get an insight into the Machine Learning aspects.

The field of machine learning is concerned with the question of how to construct computer programs that automatically improve with experience. In recent years many successful machine learning applications have been developed, ranging from data-mining programs that learn to detect fraudulent credit card transactions, to information-filtering systems that learn users' reading preferences, to autonomous vehicles that learn to drive on public highways. At the same time, there have been important advances in the theory and algorithms that form the foundations of this field.

The FDP was formally inaugurated by Dr. MohanBabu G N, Principal, BMSIT&M. In the inaugural address, the Principal has appreciated the efforts to educate the teaching fraternity about the happenings in the area of Machine Learning. This was followed by the keynote address from Mr. Saurabh Jain, Senior Principal Engineer, Broadcom Inc., Hyderabad, and an Alumnus of 2005-08 MCA batch. The keynote address gave an insight of Machine Learning with an emphasis on academic projects.

The 5-day FDP received overwhelming response of around 150+ participants. Though the FDP was confined to address VTU syllabus, there were participants from other states as well.

Each module of Machine Learning (18MCA53) were covered on each day of the FDP spanning for 5 days with a duration of around 3 hours per day.

The Module-1 was handled on Day 1 by Dr. Rudresh S, Assistant Professor, Department of ISE, BMSIT&M. The day-1 session comprised of the introductory concepts of Machine Learning along with real-time examples and industry perspective.

The Day-2 session was based on Decision Tree Learning algorithm. This session was handled by Dr. Aparna K, Associate Professor & HoD, Dept. of MCA, BMSIT&M. This session comprised of Representation of Decision tree, ID3 algorithm, Hypotheses space search, Inductive Bias etc.

The Module-3 on Artificial Neural Networks was handled by Dr. Rudresh S, Assistant Professor, Department of ISE, BMSIT&M. on Day-3. This session included neural network representation, Perceptrons and Back propagation algorithm.

The day-4 session was based on module-4. This session was handled by Prof. M Sridevi, Assistant Professor, Dept. of MCA, BMSIT&M. This session comprised of Bayesian Learning which included Bayes theorem and concept learning, Naïve Bayes classifier, Bayesian belief networks etc.

The module-5 was covered on Day-5 by Dr. Santhi Natarajan, Associate Professor, Dept. of AI&ML, BMSIT&M. This comprised of Sampling theorem, K-NN algorithm, Reinforcement learning etc.

The FDP concluded with feedback from the participants. Oral feedback was shared by some of the participants about the effectiveness of the FDP. It is observed that the FDP has provided insight about the curriculum on Machine Learning and they expressed that they can teach the course confidently.

The online feedback form was shared and certificates were given for all the respondents.

Some of the snapshots of the FDP:



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DEPARTMENT OF MCA

(Affiliated to VTU) (Accredited by NBA, New Delhi)



17 Years of Excellence

Estd. 2003

VISION

To Develop quality professionals in Computer Applications who can provide sustainable solutions to the societal and industrial needs

Facilitate effective learning environment through quality education, state-of-the-art facilities, and orientation towards research and entrepreneurial skills

MISSION



5-Day State-Level FDP (Online)

on

Machine Learning (18MCA53)

(5th Semester – VTU Curriculum - 2018 Scheme)

27th July to 31st July 2020

(In association with Computer Society of India, Bengaluru)



Registration Link	https://forms.gle/sKXFm4mvwxy7n9XU9
FDP Co-ordinator	Dr. Aparna K, Associate Professor & HoD, Department of MCA Ph: 9986735823, Email: hod_mca@bmsit.in

About MCA Department	About the FDP
The Department of MCA was established in the year 2003 with an approved intake of 60 students with an objective of imparting quality education to students. The MCA programme is provisionally accredited by National Board of Accreditation. The Department has 12 qualified and dedicated teaching staff and 02 technical staff members who put in their best possible efforts to ensure that the students gain the knowledge along with other life-skills, which helps them to face the world confidently and with high self-esteem. Disciplined environment, conducive to Teaching-Learning, with rigorous academic monitoring is maintained. There are many best practices that are followed in the Department including Project Based Learning, Partial Delivery of courses, Value Added Courses etc. to facilitate a better Teaching-Learning environment.	The field of machine learning is concerned with the question of how to construct computer programs that automatically improve with experience. In recent years many successful machine learning applications have been developed, ranging from data-mining programs that learn to detect fraudulent credit card transactions, to information-filtering systems that learn users' reading preferences, to autonomous vehicles that learn to drive on public highways. At the same time, there have been important advances in the theory and algorithms that form the foundations of this field. Machine Learning is introduced for the first time in the MCA Curriculum by VTU. Hence this FDP will help all the faculty members to get an insight into the Machine Learning aspects.
Who can Attend: Faculty members, Students	All Participants will be issued E-Certificates.
Timings: 2 hours slot per day	

Schedule	Resource Persons
Day 1: Machine Learning concepts	Dr. Rudresh, Associate Professor, Dept. of ISE, BMSIT&M
Day 2: Decision Tree Learning	Dr. Aparna K, Associate Professor & HoD, Dept. of MCA, BMSIT&M
Day 3: Artificial Neural Networks	Dr. Rudresh, Associate Professor, Dept. of ISE, BMSIT&M
Day 4: Bayesian Learning	Ms. M Sridevi, Assistant Professor, Dept. of MCA, BMSIT&M
Day 5: Evaluating Hypothesis	Ms. M Sridevi, Assistant Professor, Dept. of MCA, BMSIT&M



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5-Day State-Level FDP (Online)

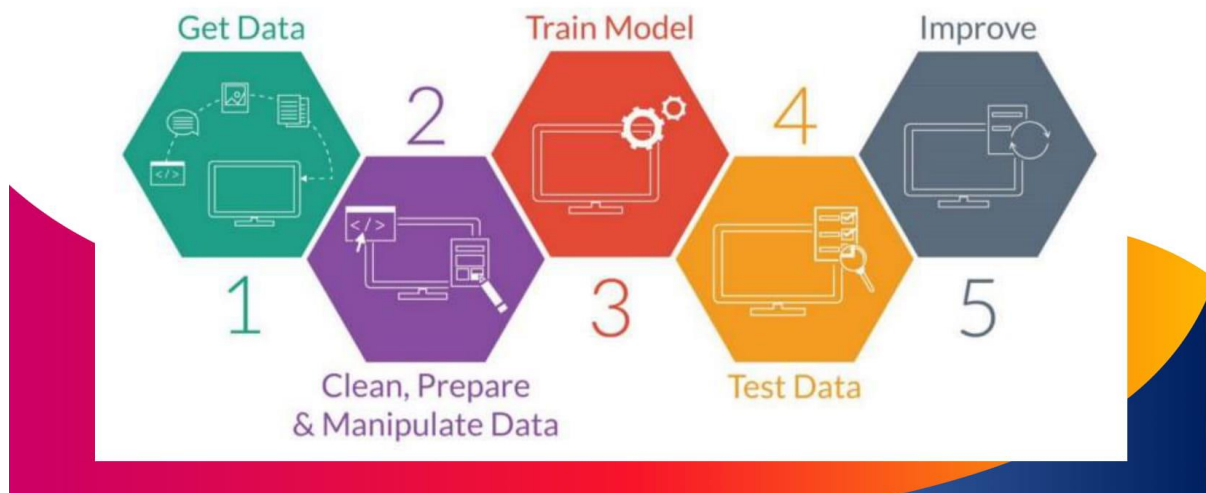
on

Machine Learning (18MCA53)

27th July to 31st July 2020

Program Schedule	
DAY-1 (27.7.2020)	
Welcome Address (10.00 am - 10.10am)	Dr. Aparna K, FDP Co-ordinator & HoD, Dept. of MCA
Inaugural Address (10.10 am – 10.20 am)	Dr. MohanBabu G N, Principal, BMSIT&M
Keynote Address (10.20 am – 10.45 am)	Mr. Saurabh Jain Senior Principal Engineer, Broadcom Inc., Hyderabad (2005-08 Batch - MCA Alumnus)
Session-1 (10.45 am to 12.45 pm) (Machine Learning Concepts)	Dr. Rudresh, Assistant Professor, Dept. of ISE, BMSIT&M

Link to join in: <https://meet.google.com/fae-yemo-wtu>



Machine Learning FDP - Day...

People (119) Chat (6)

- Santhosh Rebello
- sasi kala
- Sathyendra Bhat J
- Saurabh Jain
- Seema Nagaraj
- Shailaja Kp
- Shaleen Bhatnagar Asst prof C...
- Sharath K
- shri Ad

Machine Learning FDP - ...

Turn on captions Present now

Type here to search

10:12 27-07-2020

Saurabh Jain is presenting

Meghashree E M and 123 more

10:24 AM

Humans are an exceptional masterpiece of an AI, existing on this globe and it's intrinsic

5 Sense Data Accumulation

Brain
1. Data
2. Information
3. Actions

Human Actions

Image credit to: [Just Learning](#)

People (134) Chat (10)

- Saurabh Jain
- Karuna Pandit
- Meenakshi Sundar...
- Mohan Kumar
- Mohan Babu G N
- Niranjnamurthy M
- Suma N R
- Pradeep Tangadagi

Type here to search

10:24 27-07-2020

Inbox (2) - hod_mca@bmsit.in x Meet - Machine Learning F... WhatsApp

https://meet.google.com/fae-yemo-wtu?authuser=0

REC Dr. Rudresh Shirwaikar Asst Professor, ISE is presenting

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Amazing milestones in AI so far

1956: The Dartmouth Conference communicated through text intelligence but could understand context.

1966: ELO developed as MIT, world's first chess program.

1982: Rise of neural networks as a subfield of AI.

1997: Deep blue defeats world chess champion Garry Kasparov.

2011: IBM Watson wins Jeopardy!

2012: Power of Deep learning is unveiled to the world.

2015: The DARPA grand challenge race for autonomous vehicles across over 100 kilometers of off-road terrain.

2016: IBM researchers publish a statistical approach to language translation, which was the fuel for AI.

Machine Learning FDP... Turn on captions Dr. Rudresh Shirwaikar Asst P... is presenting

People (120) Chat (4)

- Dr. Rudresh Shirwaikar Asst Pr...
- Dr. Mamatha G
- Dr. Saimadhavi D
- Drakshaveni G
- Dwarakanath G V
- Ganesh D
- Ganesh M Shet
- Girish Kulkarni

Type here to search

Inbox - ambikaganesh@gmail.co x WhatsApp

meet.google.com/fpp-pypy-soh

REC HOD MCA is presenting

Diwakar Cambri... and 97 more

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Department of MCA

Calculate Gain for the Current Attribute

$$\begin{aligned} \text{Gain} &= \text{Entropy}(S) - I(\text{Attribute}) \\ &= \text{Entropy}(S) - I(\text{Humidity}) \\ &= 0.940 - 0.788 \\ &= \boxed{0.152} // \end{aligned}$$

J Jayashree Nair HOD MCA

R Rajashree Biradar M Mohan Kumar

K Karuna Pandit Meenakshi Sundaram

Dr. Abid Hussain S Shaleen Bhatnagar A...

VTU Webinar.pdf Show all x

11:11 28-07-2020

FDP - Machine learning - Day 4 x Meet - FDP-Day-4- 30.07.20 x

meet.google.com/wjo-kgyb-vtm

REC Sridevi M, Asst. Professor, Dept. of MCA, BMSITM is presenting

FDP-Day-4- 30.07.2020

People (100) Chat (18)

Add people

Nirupama B K (You)

achuthajc mcaoxford

Arundhathi Aruna

Asfiya Banu

Asha Rani

Basavaraju S

Bhavaniadi h.s

Blindu Patel

Activate Windows
Go to Settings to activate Windows.

Vishwanath Murthy has left the meeting

10:56 AM
7/30/2020

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Finding MAP Hypothesis *N = true result*

$$b_{MAP} = \underset{\text{best}}{\text{argmax}} P(D|h)P(h)$$

$$= P(+/\text{cancer}) \cdot P(\text{cancer})$$

$$= 0.98 \times 0.008 = 0.0078$$

$$h_{MAP} = P(+/\text{cancer})P(\text{cancer})$$

$$= 0.03 \times 0.992 = \frac{P(+|D)}{P(D)}$$

$$= 0.0298$$