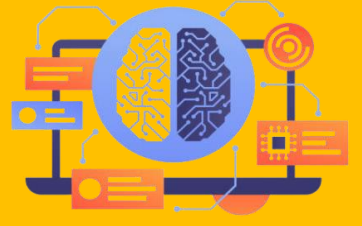




Atal Bihari Vajpayee - Indian Institute of
Information Technology and Management
Gwalior

Department of Computer Science and
Engineering



5-Days Self-Sponsored Online Short-Term Course “Hands-on on Machine Learning and Deep Learning (Module-1)” 29th January - 02nd February 2024

About ABV-IIITM Gwalior

ABV-IIITM Gwalior is a premier institute incepted by MHRD, Government of India, in the year 1997 as a center of excellence in the field of Information Technology and Management. It is NAAC 'A' certified and has also been declared as an institute of national importance by the Government of India. It is located in the city of Gwalior in the northern part of the state of Madhya Pradesh, India. The Institute's activities aim to develop a culture of inquiry and research through a highly competitive academic environment and close interaction between the Institute and the corporate world. For more information, please visit: <http://iiitm.ac.in/>

Objective of the Course

Machine Learning (ML) is a branch of Artificial Intelligence (AI) that focuses on developing algorithms to learn and improve their performance for specific tasks replicating the human learning processes. Deep Learning (DL) is a subfield of ML. The primary difference between ML and DL is that ML requires manually extracted characteristics or features, whereas DL automatically determines and extracts features relevant to the task at hand. In this sense, DL is an improvement on ML because it reduces human dependency. Module-I of this hands-on course primarily focuses on the data: characteristics, statistical and visual analysis, feature analysis and reduction, and machine learning models: classification, regression, clustering, and reinforcement with practical hands-on using real-world applications intermingled with the theoretical concepts in the sessions. Additionally, a convolutional neural network (CNN) shall also be dealt with in this module. However, module-II shall focus on DL with hands-on application.

Who can Attend?

This is a program designed for students, research scholars, professionals, faculty members, and others with an interest in machine learning and deep learning. The applicants are also welcome but not limited to B.Sc./M.Sc., BCA/MCA, BBA/MBA, B.E./B.Tech., M.E./M.Tech., Ph.D., working professionals from start-ups, MSMEs, and others.

Topics to be Covered

Broadly, the course will cover the following topics. In each session, theoretical concepts and hands-on are intermingled.

	Session-1	Session-2
Day-1	Introduction to Data (text, image, video, etc.), its types, Descriptive data analysis	Inferential data analysis, hypothesis testing, data preparation and transformation
Day-2	Introduction to machine learning (ML), supervised learning	Unsupervised and semi-supervised learning
Day-3	Ensemble learning and its advancements	Performance Evaluation of ML models
Day-4	Introduction to neural network, perceptron learning, and multilayer perceptron (MLP)	Training methods of MLP, Role and types of activation functions
Day-5	Introduction to convolution neural network (CNN)	Pooling, stride operations, role of different layers, optimization functions (ADAM, Adadelata, etc.)

Course details

Mode of the course: Online

Timing:

Session 1: 3:00 PM - 4:30 PM

Session 2: 4:45 PM - 6:15 PM

E-Certificate will be provided to all the participants.

Registration Fee*

Students, Research Scholars, and Faculty Members INR 750/-
Industry INR 1250/-

*GST is included in the registration fee.

Bank Account Details

Account Name: Director, ABV-IIITM, Gwalior
Account Number: 945210110009380
Name of the Bank: Bank of India
IFSC Code: BKID0009462
Bank address and Branch IIITM branch, Gwalior

Chief Patron:

Prof. Sri Niwas Singh
Director, ABV-IIITM Gwalior

Course Coordinators:

Prof. Pramod Kumar Singh, ABV-IIITM Gwalior,
Dr. Santosh Singh Rathore, ABV-IIITM Gwalior
Dr. Wilfred W. Godfrey, ABV-IIITM Gwalior

Resource Persons

Faculty members from IIITs and NITs and Industry experts shall deliver lectures and hands-on.

Registration Link:

<https://forms.gle/oRmwN8cpcGksQA457>

Scan here for registration



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