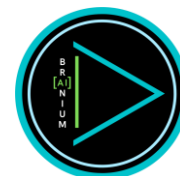# BMS Institute of Technology & Management, Bengaluru -064

Department of Artificial Intelligence and Machine Learning

The two days' workshop on **Applied Artificial Intelligence and Machine Learning** held on 4th March 2022 and 11th March 2022.

Session Timings: Day 1 – Afternoon Session: 01:45 PM to 04:50 PM
Day 2 – Morning Session: 9.30 AM to 1.30 PM
Afternoon Session: 2: 15 PM to 04:00 PM

Mode of FDP: Offline

No. of Registered Participants : 75 to 80 approximately from all the branches.

The Brainium the technical forum of the Department of Artificial Intelligence and Machine Learning, BMSIT&M, Bengaluru in association with AAAI, Bengaluru conducted Two days workshop for all the department faculty members on "Applied Artificial Intelligence and Machine Learning" on 4th and 11th March 2022. This is an initiative as part of the National Education Policy of sharing the AI & ML knowledge along with other departments.

Inaugural Session:

The inauguration of the workshop program started with an invocation song by Dr. N. Rakesh, Associate Professor followed by a welcome address by Dr. Pradeep K. R., welcomed dignitaries on the dais with a token of gift coordinated by fellow faculty members of the department, to continue with about the workshop given by Dr. Bharathi Malakreddy A. HoD – Dept of AI & ML, she gave an insight about the workshop about AI & ML and its significant applications in interdisciplinary domains, then Presidential address by Dr. Mohan Babu G. N. – Principal, BMSIT & M, Bengaluru., it was first of its kind conducting interdisciplinary workshops as part of NEP emphasized all non-IT departments faculty members to appreciate the predominance of AI in all the day to day affairs in terms of technology and solutions.

Further, Dr. Anil G. N. Dean Academics BMSIT & M, Bengaluru, gave his opinion and requested HoD – AI & ML Dr. Bharathi Malakreddy A., to offer AI & ML open elective course for all the departments. Finally, the Vote of Thanks was made by Dr. Umashankar M. L. Assistant Professor. The program was attended by all the department faculty members around 45 to 50 numbers approximately.

BMS INSTITUTE OF TECHNOLOGY & MANAGEMENT
(Autonomous Under VTU)

To make best use of the workshop

24.12.22

Workshop on
Applied Artificial Intelligence and Machine Learning
03rd – 04th March 2022
Organized by
Department of Artificial Intelligence and Machine Learning

Preamble

This Workshop is designed to focus on the Artificial Intelligence and Machine Learning Concepts. AI is an interdisciplinary science with multiple approaches, but advancements in machine learning and deep learning are creating a paradigm shift in virtually every sector of the tech industry. We will discuss its concepts, types, algorithms, techniques and various practical applications. This Workshop will generate an ecosystem for research and provide the academic excellence in the system. The objective of this Workshop is to provide the theoretical and practical knowledge about the AIML. AIML has also opened interesting research and academic opportunities in Multidisciplinary areas.

About the Institution

BMS Institute of Technology and Management was established in the year 2002 under the auspices of BMS Educational trust with the vision of establishing a premier technical institute on par with international standards. It is recognized by AICTE, Government of India, and is affiliated to VTU, Belagavi. BMSIT&M offers eight UG and three PG programmes along with 10 R&D centres. Six UG programmes and one PG program have been accredited by NBA. BMSIT&M has obtained an "A" Grade from NAAC. BMSIT&M is the first institution to introduce Artificial Intelligence and Machine Learning as a UG program. Our green initiatives awarded us the "Best Ornamental Garden" by the Mysore Horticultural Society. With its modern infrastructure, highly qualified faculty members, and active industry engagement, the institute has been recognised as an "Emerging Technical Institute in the state of Karnataka" by VTU. Federation of Indian Chambers of Commerce & Industry has placed BMSIT&M among the top seven institutes in India for the "FICCI Excellence in Faculty" award. The institute supports students for their overall development through both curricular and co-curricular activities. Institute vision to emerge as one of the finest technical institutions of higher learning, to develop engineering professionals who are technically competent, ethical and environment friendly for the betterment of society. Institute mission accomplish stimulating learning environment through high quality academic ambiance and innovation.

About the Department

Welcome to the Department of Artificial Intelligence and Machine Learning at BMSIT&M, Bengaluru. The Department is the realization of our Management's vision of offering an undergraduate program in the stream, a need of the hour to address the fast growing industrial demands to embrace the technology of AI and methods of Machine Learning. Under the visionary leadership of our beloved Principal, Dr. Mohan Babu G. N., we started our exciting journey on August 02, 2019, with a sanctioned student strength of 60. The primary focus of our curriculum is to impart technical know how to students, promote their problem-solving skills and innovation of new technologies. Our department maintains active research groups for carrying out collaborative and interdisciplinary research. We have state-of-the-art research facilities to support our academic programs and research. At present, the department faculty are guiding 6 Ph.D. scholars from industries and academics. It is heartening to find that our students look forward to contributing to solving the technological challenges of society with active participation, perseverance and hard work. Skill & knowledge relevant to real-world problems is inseminated to produce dynamic humans.

About the Workshop

- Artificial intelligence (AI) is wide-ranging branch concerned with building smart machines capable of performing tasks that typically require human intelligence.
- Machine learning feeds a computer data and uses statistical techniques to help it "learn" how to get progressively better at a task, without having been specifically programmed for that task, eliminating the need for millions of lines of written code.
- This Workshop on "Artificial Intelligence and Machine Learning" aims at providing an opportunity to enhance the knowledge about the latest technologies pertaining to Artificial Intelligence and Machine Learning.
- This Workshop would provide participants with the guidelines to explore the area of Artificial intelligence and its applications.
- The participants would learn to develop methods for solving problems related to diverse computational fields.

Course Content

* Introduction to Artificial Intelligence and Machine Learning.
* Python Installation and Machine Learning libraries in python
* Supervised Learning.
* Unsupervised learning.
* Applications of Artificial Intelligence and Machine Learning - Project Demonstration

Schedule

Date : 03-03-2022 Time : 9.00am to 12.30pm	Introduction to AI and ML. Machine learning and Artificial Intelligence libraries in python.
Date : 04-03-2022 Time : 1.30pm to 4.30pm	Supervised learning, Unsupervised learning, Applications of AI & ML- Project demonstration

Chief Patrons

Sri. Aviram Sharma
Trustee, BMSET
Chairman, BOG, BMSIT&M
Chairman, BOG, BMSCCM &
Chairman, ICD, Bengaluru

Dr. B. S. Ragini Narayan
Educationist
Donor Trustee & Member Secretary
BMSET & Chairperson, BMSET

Dr. P. Dayananda Pai
Trustee, BMSET
Chairman, Century Group

Patron

Dr. Mohan Babu G. N
Principal, BMSIT&M, Bengaluru

Conveners

Dr. Bharathi Malakareddy
Professor and Head, Dept of AI & ML

Dr. Anupama H S
Assoc. Prof, Dept of AI & ML

Organizing Chair

Dr. Vishwa Kiran S
Associate Professor, Dept of AI&ML

Faculty Coordinators

Dr. Rakesh N
Associate Professor

Dr. Umashankar M L
Assistant Professor

Dr. Pradeep K R
Assistant Professor

Faculty Conducting This Program

* The program will be conducted by the faculty members from Department of Artificial Intelligence and Machine Learning.

Eligibility and Registration

* Free Registration - Link : https://forms.gle/WkvXBvE7LSsJLQUq9
* The program is open to the faculty of BMS Institute of Technology.

Venue

* Department of Artificial Intelligence and Machine Learning, BSN Block 5th Floor.
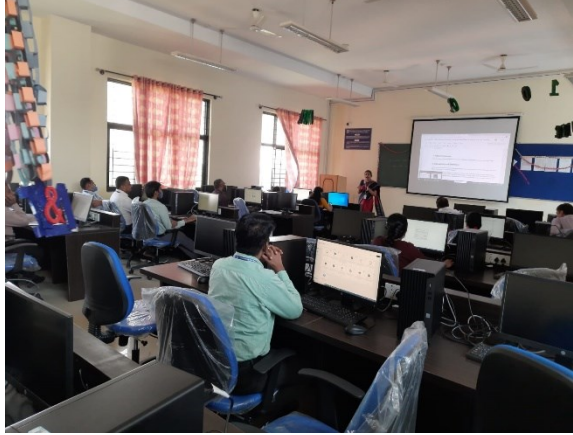
<u>Day 1: 4th March 2022</u>

- Post-inauguration of the program, we had the first session started at 2.35 pm on "**Foundations of AI&ML – An Interdisciplinary Perspective**" delivered by Dr. Bharathi Malakreddy A. Professor & HoD - AI & ML, she gave a glimpse and overview of AI & ML in terms of evolution and its revolution in today's context in of smart automation solutions, followed by few discussions and questionnaire session with participants.

- The second session after a short tea break started at 3.45 pm on "**Introduction to Python**", by Dr. Vishwa Kiran S Associate Professor. He started fundamental concepts related to programming by discussing operating systems, compiler, interpreter, and governing principles of OS. Later, gave an overview of basic data types used in the python programming language, libraries, and a few example codes. Finally, the session concluded with a few doubts answering to participants and giving pointers for Day 2 session on python programming.

Day 2: 11th March 2022

- The first session started with "**Installation of Python and its supporting libraries**" by Dr. Vishwa Kiran S., who gave a demonstration on Python installation, and its execution of code. Also, gave more explanation on python libraries, data types, and data structures with examples.

- Post tea break the second session started at 11.15 am on "**Machine Learning Algorithms: Supervised and Unsupervised Learning "and also "Demonstration on Machine Learning Datasets**", by Dr. Anupama H. S. Associate professor and Dr. Pradeep K. R. Assistant Professor. Both the speakers showed a few examples of Machine learning models and along with fundamental concepts used and applied using Machine learning. They discussed with use cases of taking a few data sets and implementing them.

- The final session started after lunch at 2.15 pm on "**Introduction to Basic concepts of Data Science & its applications**" by Dr. N. Rakesh Associate Professor and Dr. Umashankar M. L. Assistant Professor. Dr. N. Rakesh explained the basics of Data Science and perquisites. The role of data science and approach to solving the problem statement, and gave overview of the application of data science. Later, Dr. Umashankar gave the data science application in Mechanical and Civil engineering domains. The session ended with a discussion and questionnaire from participants. The day 2 session was attended by around 15 to 20 members across all the departments.

Photographs:

Brainium Expert Talk 1(2022)

A webinar was hosted for the students of the Department of Artificial Intelligence & Machine Learning, BMSIT&M on the 4th of June 2022 at 9:30 AM by Dr R.Dinesh (Head of AI and Camera Solution, Samsung Electro-Mechanics) in collaboration with the AI&ML Department, Basaveshwara Engineering College, Bagalkot. This talk marked the first of the collaborative effort between the two departments.

About the Speaker

Dr R.Dinesh

Prior to joining Samsung, he worked for companies Amazon, HCL Technologies, Honeywell, Dream to Reality, and Seoul, South Korea. His areas of research, and interest includes Image processing, Pattern Recognition, Computer Vision, Machine Learning and Data Analysis. He has over 75 publications to his credit at both International and National Journals and conferences. He also has 27 patents to his credit. He is serving on the editorial board of several journals. He has been identified as a reviewer for several International Journals/conferences. He has served as a program committee member for several National/International Conferences. He has guided 4 PhD Scholars and He is presently guiding 6 PhD scholars. He has successfully guided many academic and research projects. He is a life member of IEEE, Computer Society of India and Society of Statistics, Computer and Applications. He is also serving as a member of the Board of Studies and Board of Examiners in various universities and colleges.

Topics Discussed

The following topics were set to be discussed during the session:
- Machine Learning Models
- AI Skillsets needed by an AI Engineer
- Student interaction to get into the industry

At 9:00 AM, students from the 4th Semester and 6th Semester assembled in Seminar Hall -2 and were seated by 9:30 AM.

Dr Dinesh joined the talk via Google Meet and the same was streamed to the students of BGS, Bagalkot.
Once Everything was set in stone, Dr Dinesh was introduced to the audience by Sadanand V(6th Semester AIML BMSIT&M) who was the host of this talk. The talk was in-depth and started off with a brief introduction and his background. After which Dr Dinesh directly drove into the topic of Machine Learning and gave the audience insights into the fundamentals of Machine Learning. The common ML Models mentioned were Linear Regression, Bayes Classification, etc. The remaining of the talk was made more interactive with a constant back and forth between Dr

Dinesh's questions and the Audience's answers. Towards the end of his presentation, Dr Dinesh brushed upon the requirements and needs of for an AI engineer in the IT Sector and also gave us a good overview of the skillsets that we are expected to process. The talk concluded with a Q&A Session that was sent in by the Audience from both BMSIT&M and BGS, Bagalkot, read out by the Host. The vote of thanks was delivered by Mr Shrivatsa Vaman Gud of BGS, Bagalkot followed by Dr Bharathi Malakreddy addressing the Audience and encouraging them to obtain the discussed skillsets to be able to set up opportunities with industry starting off with Dr Dinesh for internships.
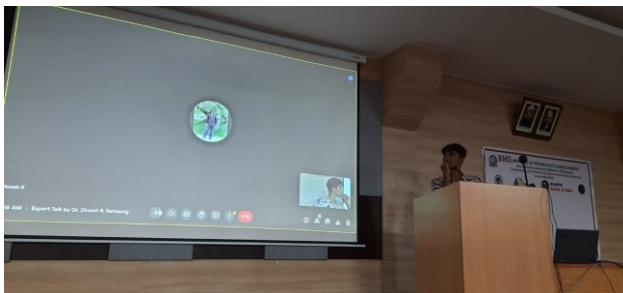
The Talk

The BMSIT&M Audience

The BEC, Bagalkot Audience

Introducing the Speaker

Vote of Thanks by Mr.Shrivatsa(BEC,Bagalkot)