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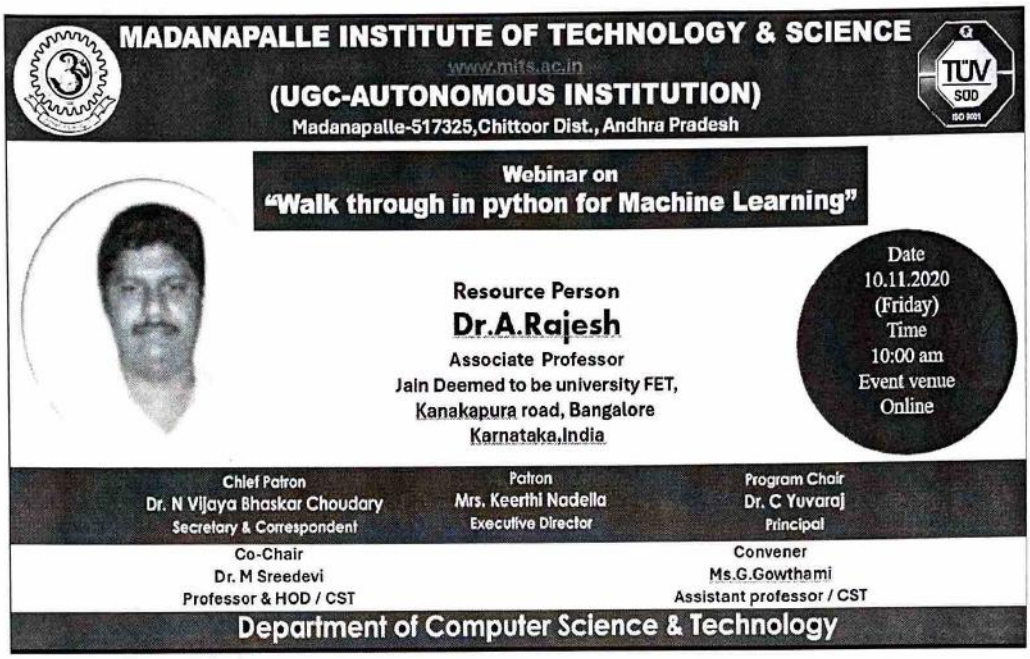
A Report on

Webinar On

Walk through in python for Machine Learning

10 November 2020



Submitted by Ms. G Gowthami, Assistant Professor, Department of CST.

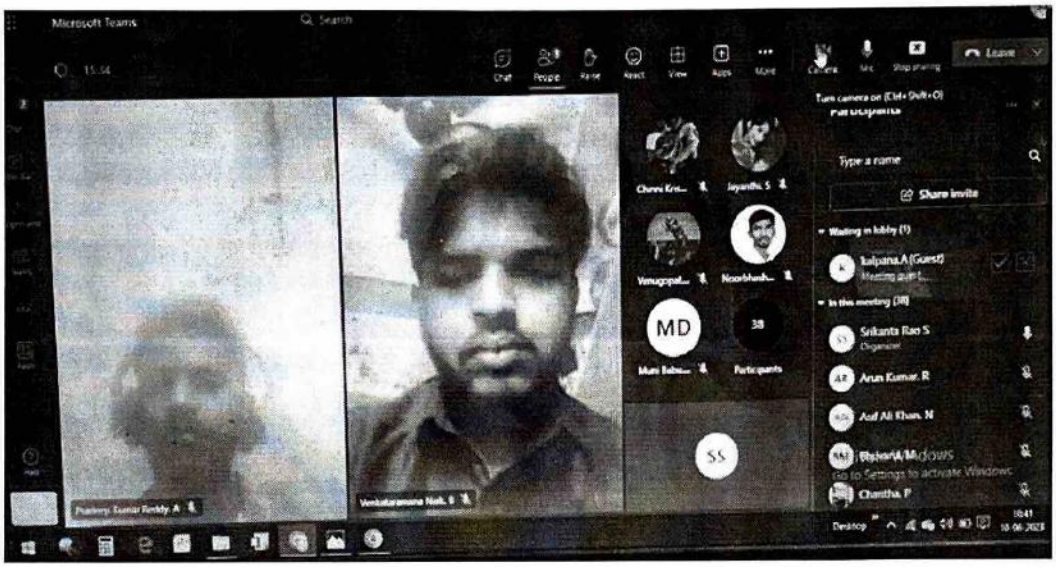
Resource Person details:

Resource Person:	**Dr. A Rajesh**
Designation:	**Professor**
Department:	**CSE**
Organization:	**Jain Deemed to be university, FET,Kanakapura road, Bangalore**
Participants:	**II year CST**
Attendance:	**80 participants (Internal)**
Venue:	**Online (virtual mode)**

Department of Computer Science and Technology, has organized Webinar on **" Walk through in python for Machine Learning "** on **10-11-2020** (Tuesday), **10:00 AM**

Objective:

The aim of this Webinar is that students has to know about Python programming , packages, various machine learning platforms, Applications, its usage with practical implementation.

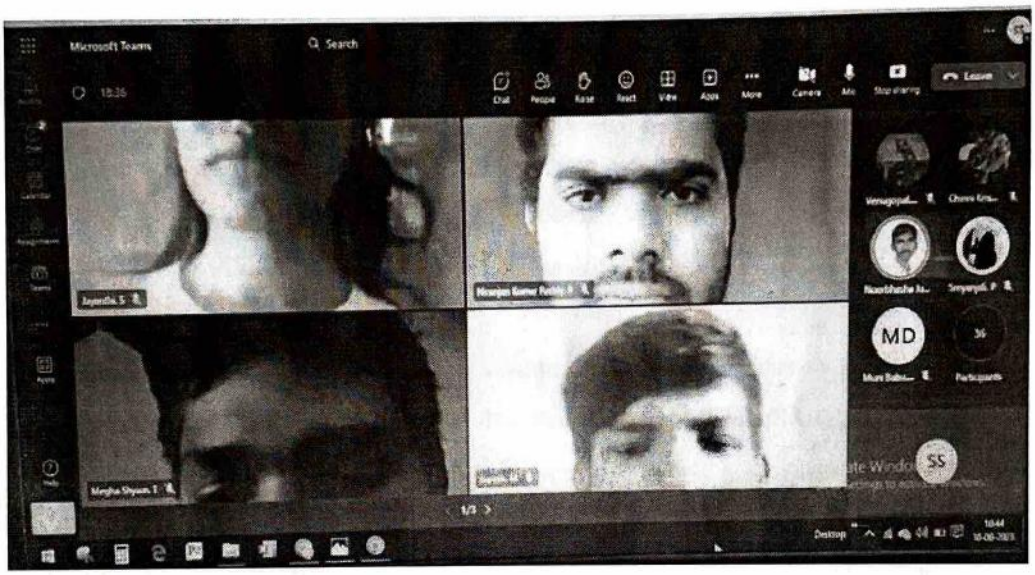


Welcome Address:

Ms. G Gowthami, Assistant Professor, Event Coordinator, Department of CST, MITS gave few words about the event with a grand welcome to the Resource Person, HOD, Faculty members and participants and thanked organizers and participants for organizing this event.

Resource Person Introduction:

Ms. G Gowthami, Assistant Professor, Department of CST, MITS, Madanapalle conveyed her greetings to Resource person, Management, Principal, Vice Principals, Deans, all the HODs, Faculty members for giving this opportunity for conducting Online Webinar. Then she introduced the resource person **Dr. A Rajesh** to the gathering and read about his achievements.



Dr. A Rajesh started the session by extending his heartily thanks to the participants organizing members, HOD, Principal and Management of MITS, Madanapalle for giving him opportunity to share his knowledge and experience in **" Walk through in python for Machine Learning "**

Python is one of the most popular programming languages in the field of machine learning for several reasons

1. **Rich Ecosystem of Libraries**: Python boasts a vast array of libraries specifically designed for machine learning and data science. Libraries like NumPy, Pandas, scikit-learn, TensorFlow, and PyTorch provide comprehensive tools for data manipulation, modeling, and deep learning.
2. **Ease of Learning and Use**: Python's simple and intuitive syntax makes it accessible to beginners and experts alike. Its readability and simplicity accelerate the development process, allowing practitioners to focus more on solving machine learning problems rather than dealing with complex syntax.
3. **Flexibility and Versatility**: Python's versatility enables developers to use it across the entire machine learning workflow, from data preprocessing to model deployment. It seamlessly integrates with other languages and frameworks, facilitating interoperability and scalability.

Python offers a rich ecosystem of libraries and packages specifically tailored for machine learning tasks. Here are some of the most popular ones:

1.NumPy: Fundamental package for scientific computing in Python. It provides support for multidimensional arrays and matrices, along with a wide range of mathematical functions to operate on these arrays.

2.Pandas: Data manipulation and analysis library built on top of NumPy. It offers data structures like DataFrame and Series, along with tools for reading and writing data from various formats.

3.scikit-learn: Simple and efficient tools for data mining and data analysis. It features various machine learning algorithms for classification, regression, clustering, dimensionality reduction, and model selection.

4.TensorFlow: An open-source deep learning framework developed by Google. TensorFlow offers a comprehensive ecosystem of tools, libraries, and community resources for building and deploying machine learning models, especially neural networks.

5.PyTorch: Another popular deep learning framework, developed by Facebook's AI Research lab. PyTorch provides dynamic computation graphs and a flexible, imperative programming model, making it suitable for research and production-level deployment.

6.Keras: High-level neural networks API that runs on top of TensorFlow, Theano, or Microsoft Cognitive Toolkit (CNTK). Keras simplifies the process of building and training deep learning models by providing a user-friendly interface and modular design.

7.XGBoost: An optimized gradient boosting library that implements machine learning algorithms under the Gradient Boosting framework. It's highly efficient and widely used for classification, regression, and ranking problems.

The resource Person delivered Webinar on the following topics:

1. Introduction to Python for Machine Learning: Basics and Beyond
2. Exploring Data Science Libraries in Python: NumPy, Pandas, and Matplotlib
3. Building Your First Machine Learning Model with scikit-learn
4. Deep Dive into Neural Networks with TensorFlow and Keras
5. Feature Engineering Techniques in Python for Machine Learning
6. Model Evaluation and Validation Strategies in Python
7. Unsupervised Learning: Clustering and Dimensionality Reduction with Python
8. Natural Language Processing (NLP) with Python and NLTK
9. Time Series Analysis and Forecasting with Python

Queries and Feedback session:

- Students asked queries on Python packages, Jupiter platform and its machine learning advanced developments areas, Resource person answered for all those queries.
- Students given feedback on the Online Webinar and said they felt happy for involving in this type of session as they got clear picture about Machine learning.

Take away from session:

- Students understood the Basics, areas and Importance of Machine learning
- Students know the python platform for executing the machine learning projects.
- Students got the idea of how to create a datasets and use in the project.

The session ended by **Dr. M. Sreedevi, Professor, Head of the Department, MITS,** thanking the resource person, faculty members and students and expressed her gratitude to the Management and Principal for giving permission and financial support to organize this programme.

Vote of Thanks: The session was concluded at 12:00 pm followed by a vote of thanks, given by Dr.K.Dinesh, Associate Professor, Department of CST MITS, Madanapalle.

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