



Vishnu Waman Thakur Charitable Trust's

# VIVA INSTITUTE OF TECHNOLOGY

Shirgaon, Virar (E), Taluka-Vasai, District-Palghar, 401305, Maharashtra

Telephone: 7770002544, Website- [www.viva-technology.org](http://www.viva-technology.org)

Accredited by NAAC with a "B++" Grade

## Department of Electrical Engineering

### Report on University of Mumbai and ISTE Approved one Week STTP on "Power Load Forecasting Using Machine Learning"

4<sup>th</sup> November to 11<sup>th</sup> November 2024

organized by

Department of Electrical Engineering and

Department of Electronics and Telecommunication Engineering

This 6-day Short-Term Training Program (STTP) on Power Load Forecasting Using Machine Learning aims to equip participants with a thorough understanding of essential concepts and hands-on skills in these fast-growing fields. The program covers a range of topics, including data handling, preprocessing, machine learning algorithms, exploratory data analysis (EDA), and feature engineering. Participants will gain practical experience working with real-world datasets, learning to clean, transform, and model data effectively while exploring popular tools and techniques in the industry. In addition to foundational training, the course will explore advanced topics such as hyperparameter tuning, model deployment, and data visualization. By the end of the program, participants will not only understand the theory behind machine learning but also have the practical skills to build, evaluate, and deploy machine learning models. This comprehensive approach ensures that participants leave with the ability to apply data science and machine learning techniques.

#### Topics covered in STTP on "Power Load Forecasting Using Machine Learning"

- Overview of Data Science and Machine Learning
- Introduction to Kaggle Database & ML Algorithm
- Data Handling and Preprocessing & Exploratory Data Analysis (EDA)
- Data Collection & Preprocessing,
- Modeling Training & Evaluation Feature Engineering,
- Model Development & Reporting

#### The outcome of STTP:

- Gain practical skills in handling, preprocessing, and analyzing real-world datasets, ensuring you're well-prepared to apply these techniques in real projects.
- Understand and implement foundational machine learning algorithms, including model development, training, and evaluation.
- Learn to enhance model performance through feature engineering and hyperparameter tuning,



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improving accuracy and generalization.

- Acquire the skills to deploy machine learning models in production environments and present data insights with effective visualizations and reporting techniques.

The University of Mumbai introduced a revised curriculum that incorporates programming and software simulation across various subjects. With rapid advancements in industry requiring expertise in software coding and programming languages, it became essential for faculty to also develop competency in these areas. With this intention, the University of Mumbai and ISTE approved a Short-Term Training Program (STTP) on "Power Load Forecasting Using Machine Learning," which was conducted from 4th November to 11th November 2024 by the Electronics and Telecommunication Engineering Department at VIVA Institute of Technology. This program aimed to equip faculty with essential skills in data science and machine learning, enhancing their ability to teach and apply these technologies in an evolving academic and industry landscape.

Details of the Speaker are as follows:

Day	Name of Instructor	Name of Institute/ Organisation	Name of Topic
04/11/2024	Prof. Sonia Dubey	VIVA Institute of Technology	Overview of Data Science and Machine Learning
05/11/2024	Dr. Brijesh Joshi	VIVA Institute of Technology	Introduction to Kaggle Database & ML Algorithm
06/11/2024	Dr. Tatwadarshi Nagarhalli	Vidyavardhini's College Of Engineering & Technology, Vasai Road	Data Handling and Preprocessing, Exploratory Data Analysis (EDA)
07/11/2024	Ms. Esha Prakash	Data Scientist at TESTRIQ QA LAB, LLP	Data Collection & Preprocessing, Modelling Training & Evaluation
08/11/2024	Ms. Esha Prakash		Feature Engineering, Model Development & Reporting, Hyperparameter Tuning, Model Deployment, Visualization & Reporting
11/11/2024	Mr. Chandan Kolvankar	Vidyavardhini's College Of Engineering & Technology, Vasai Road	Application of ML Algorithm



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Participants were the teaching faculty of Engineering College. A total of 16 faculty members participated in the One Week Short-Term Training Program conducted. On the last day of the STTP institute received feedback from the participants that they had learned and enhanced their knowledge in this STTP and they would always want to attend this kind of STTP in this institute once again. The overall feedback of the Training Program was encouraging and was highly rated by the participants.



**Day 1: Overview of Data Science and Machine Learning: Mrs. Sonia Dubey**





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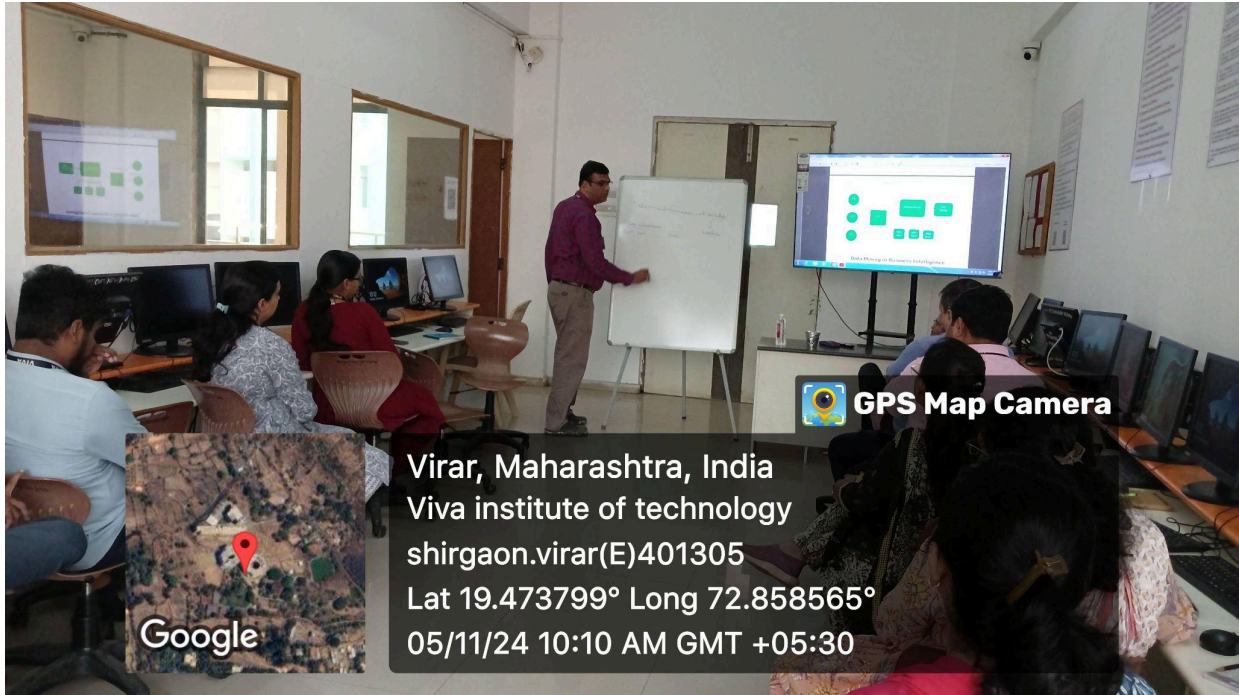
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**Day 2: Introduction to Kaggle Database & ML Algorithm: Dr. Brijesh Joshi**



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**Day 3: Data Handling and Preprocessing & EDA: Dr. Tatwadarishi P.N.**





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**Day 4: Data Collection & Preprocessing, Modelling training & Evaluation: Ms. Esha Prakash**



**Day 5: Feature Engineering, Model Development & Reporting: Ms. Esha Prakash**





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**Day 6: Application of ML Algorithm: Mr. Chandan Kolvankar**

