

IGNITE 2023



WEEKLY NEWSLETTER

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STUDENT ACHIEVEMENT



Elite
NPTEL Online Certification
(Funded by the MoE, Govt. of India)

This certificate is awarded to
DEEPAK RAJ
for successfully completing the course

The Joy of Computing using Python

with a consolidated score of **77 %**

Online Assignments	24.69/25	Proctored Exam	52.04/75
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Total number of candidates certified in this course: **10672**

Prof. Devendra Jalihal
Chairperson,
Centre for Outreach and Digital Education, IITM

Jan-Apr 2023
(12 week course)

Prof. Andrew Thangaraj
NPTEL, Coordinator
IIT Madras

Indian Institute of Technology Madras

swayam

Roll No: NPTEL23CS20523343652 To validate the certificate No. of credits recommended: 3 or 4



Elite
NPTEL Online Certification
(Funded by the MoE, Govt. of India)

This certificate is awarded to
BALAJI V
for successfully completing the course

The Joy of Computing using Python

with a consolidated score of **66 %**

Online Assignments	24.38/25	Proctored Exam	41.33/75
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Total number of candidates certified in this course: **10672**

Prof. Devendra Jalihal
Chairperson,
Centre for Outreach and Digital Education, IITM

Jan-Apr 2023
(12 week course)

Prof. Andrew Thangaraj
NPTEL, Coordinator
IIT Madras

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Roll No: NPTEL23CS20583343580 To validate the certificate No. of credits recommended: 3 or 4

Deepak Raj and Balaji, III year students, Biomedical Engineering have successfully completed 12 weeks NPTEL Online Certification course in “The Joy of Computing using Python” from Jan –April 2023.

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STUDENT ACHIEVEMENT



NPTEL Online Certification

(Funded by the MoE, Govt. of India)

This certificate is awarded to
ASHISHVISHAL R
for successfully completing the course

The Joy of Computing using Python

with a consolidated score of **55** %

Online Assignments	17.06/25	Proctored Exam	38.27/75
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Total number of candidates certified in this course: **10672**



Prof. Devendra Jalihal
Chairperson,
Centre for Outreach and Digital Education, IITM

Jan-Apr 2023
(12 week course)



Prof. Andrew Thangaraj
NPTEL Coordinator
IIT Madras



Indian Institute of Technology Madras



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Roll No: NPTEL23CS2058334363 To validate the certificate  No. of credits recommended: 3 or 4



NPTEL Online Certification

(Funded by the MoE, Govt. of India)

This certificate is awarded to
T KALAIMATHI
for successfully completing the course

The Joy of Computing using Python

with a consolidated score of **60** %

Online Assignments	21.09/25	Proctored Exam	39.06/75
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Total number of candidates certified in this course: **10672**



Prof. Devendra Jalihal
Chairperson,
Centre for Outreach and Digital Education, IITM

Jan-Apr 2023
(12 week course)



Prof. Andrew Thangaraj
NPTEL Coordinator
IIT Madras



Indian Institute of Technology Madras



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Roll No: NPTEL23CS20543880793 To validate the certificate  No. of credits recommended: 3 or 4

Ashish vishal and Kalaimathi T, III year students, Biomedical Engineering have successfully completed 12 weeks NPTEL Online Certification course in “The Joy of Computing using Python” from Jan –April 2023.

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FACULTY ACHIEVEMENT



Dr. K. Ragupathy, Assistant Professor, Department of Mechanical & Automation Engineering. NPTEL has been recognized as a "NPTEL Star" titled "NPTEL BELIEVERS" during the period Jan - Apr 2023

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FACULTY ACHIEVEMENT



Mr. M. Arun, Assistant Professor, Department of Mechanical & Automation Engineering. NPTEL has been recognized as a "NPTEL Star" titled "NPTEL BELIEVERS" during the period Jan - Apr 2023.

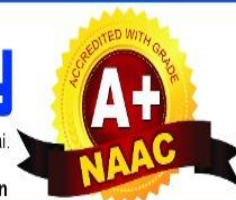
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FACULTY ACHIEVEMENT



Dr.L.Sharmila, Professor and Head, Department of Computer Science and Engineering has published a textbook titled "**Artificial Intelligence: The Next Frontier**" in the month of June 2023.

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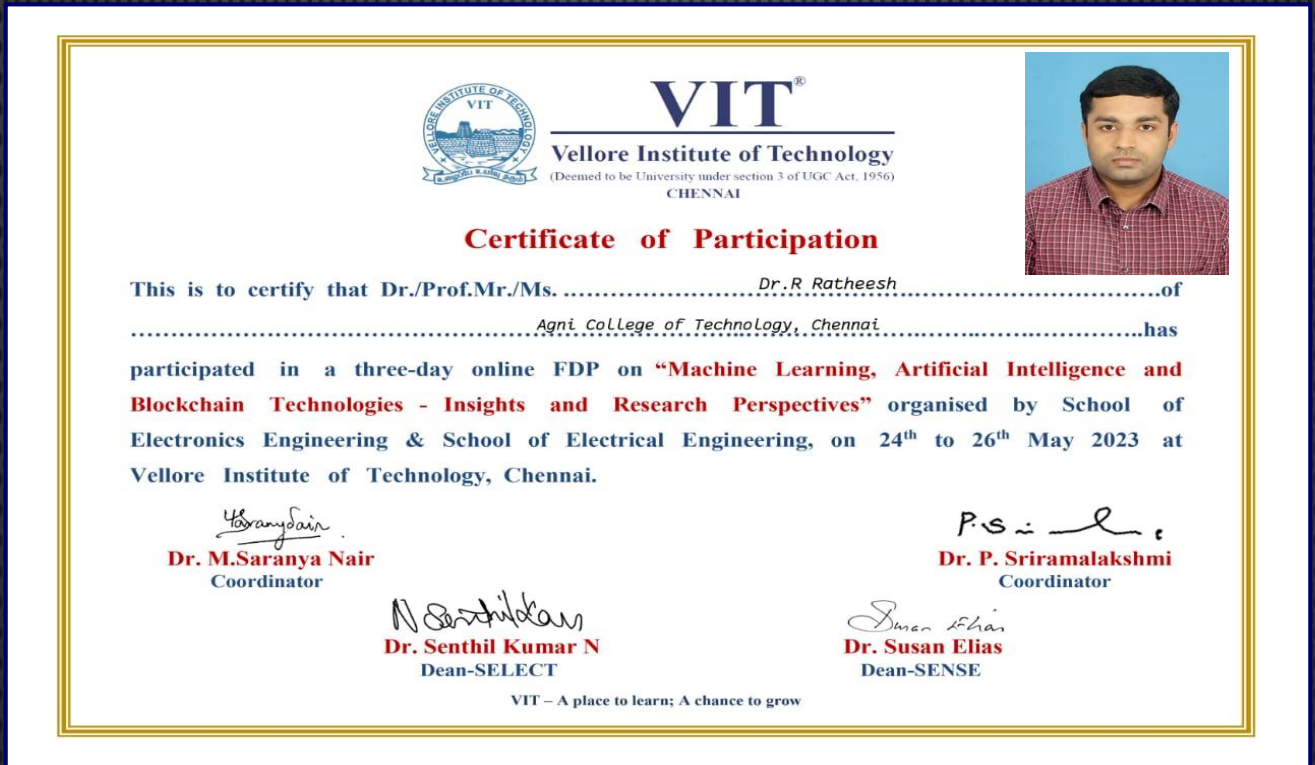


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FACULTY ACHIEVEMENT



Dr. R. Ratheesh, Assistant Professor, Department of Electronics and Communication Engineering has attended a three days online FDP on “**Machine Learning, Artificial Intelligence and Blockchain Technologies – Insights and Research perspectives**” organized by Vellore Institute of Technology, Chennai.

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FACULTY PARTICIPATION



N.Arunodhaya, Asst Professor, Department of Chemical Engineering has attended a five day international online faculty development programme on 'Outcome Based Education' organized by Tamil Nadu Teachers Education University and Dr. M.G.R. Educational Research Institute, Chennai.

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Dr. S. Chandravadhana, Dean & Prof, Department of Mechatronics Engineering has been **recognized as a Reviewer of InSc International Publishing Platforms** and also for Technical Events under the stream Mechanical Engineering.

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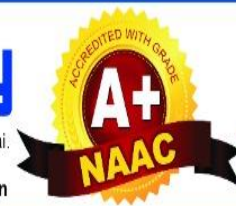
Dr. S. Chandravadhana, Dean & Prof, Department of Mechatronics Engineering has been awarded with a **Research Excellence Award 2023** by the **Institute of Scholars (InSc)** for her work published in the **Journal of Biomass Conversion and Bio Refinery** under the title **Electro discharge machining of Lychee fruit husk derived C-dots deionized green dielectric on AA7050-TiB2 metal matrix composite**.

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FACULTY ACHIEVEMENT



Dr. S. Chandravadhana, Dean & Prof, Department of Mechatronics Engineering, has been **awarded and recognized by Silicon India Education Magazine** as one among the **10 Most Promising Women Education Leaders 2023** and was applauded for her high quality techniques of learning and ingenuity to imbibe the best practices in presenting unique methodologies to address the learning outcomes.

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CERTIFICATE OF PRESENTATION

This is to certify that

M V Ishwarya

have successfully presented the paper entitled

Temporal Structural Probability Network for Weather Prediction

at the
International Conference on
Sustainable Computing and Smart Systems (ICSCSS 2023) organized by
Hindustan College of Engineering and Technology, Coimbatore, India
on 14-16, June 2023

V.B.L
Session Chair

Dr. B. Anand
Conference Chair

Dr. J. Jaya
Principal

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Proceedings of the International Conference on Sustainable Computing and Smart Systems (ICSCSS 2023)

Temporal Structural Probability Network for Weather Prediction

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Abstract—A large number of people and assets are destroyed each year as a result of severe weather, such as cyclones, lightning, storm, or rain. Scientists are developing machine learning approaches that can help forecasters better anticipate these catastrophes by better understanding the underlying mechanisms and generating more accurate empirical models. Temporal structural probability networks have been significantly improved in this research, allowing for automatic discovery of spatiotemporal correlations and the capacity to learn with any form. Prediction of thunderstorms in Texas and sea plane instability in the United States are the focus of the evaluations of suggested method. As part of the work, discussion on how to assess the effectiveness of a machine learning algorithm in the context of severe weather, the system give a collection of instructions tailored for given machine learning techniques and talk about how to implement the proposed strategy.

Keywords— Probability, Machine Learning, Weather, Temporal Models

1. INTRODUCTION

According to meteorologists, weather forecasting is the practice of determining the atmospheric circulation at a given time and place. In order to anticipate the weather, geometric climate forecast (GCF) uses automated algorithms to explain a multipart nonlinear system algebraic calculation, that are related to specific mathematical models, to arrive at an accurate forecast. To be more exact, the coordinate systems defined by these models, create an earth-based three-dimensional grid. Weather characteristics like as winds, solar radiation and water phase shift are monitored inside every network and intersections through nearby ones to anticipate the distinctive qualities of models [1].

When innovation and computer science advanced, prediction models grew increasingly available to researchers and analysts as well as stakeholders. In recent years, several NWP systems have been created, such as the Weather Research and Forecasting (WRF) model, which has been aided by increased high-performance computer capacity. Due to the proposed model's greater resolution, reliability, open-source nature, supportive environments, and wide range of applicability in diverse areas, it has become the world's most widely used atmospheric NWP model. It is therefore possible to lessen the computational load on NWP by utilizing data-driven computer modelling methods [2].

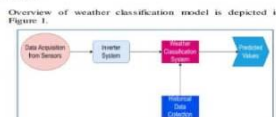


Fig. 1. Overview of Weather classification model

Artificial neural networks (ANN) are particularly well-suited to this task because of their adaptability and capacity to learn from experience. An important advantage of ANN approaches is that they may be used to solve problems that are very nonlinear. Multivariate time-series forecasting commonly employs RNN and Temporal Convolutional Neural Networks (TCN) as deep models (TCN). Due to its higher performance, an RNN variation known as Long Short-Term Memory (LSTM) has recently attracted substantial attention from researchers. Such models have garnered a lot of attention because of their superiority [3].

Nodes, which make up the overall makeup of deep networks, are generally layered neural networks with several layers. Because a set of coefficients permits the combination of data input, the computation is done at the node level [4]. As the signal travels across the network, the activation function is created using input weight products. Since time-series data including actual numbers captures meteorological information, regression approach is frequently used to create and test neural network models for reliable forecasting [5].

Machine learning and data mining approaches can help scientists better understand and forecast severe weather events in the long run by developing and using spatiotemporal methodologies. Every year, severe weather events such as thunderstorms, cyclones, hail, and wind inflict a great deal of death and property damage worldwide. Thunderstorm cause turbulence that is detrimental to aviation, resulting in expensive delays, cancellations, and even injurious accidents. Making this

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Dr.Ishwarya M.V, Head of Department of Artificial Intelligence and Data Science has presented a paper on **Temporal Structural Probability Network for Weather Prediction** at the **International Conference on Sustainable Computing and Smart Systems 2023** organized by **Hindustan College of Engineering & Technology,Coimbatore** on 14-16,June 2023.

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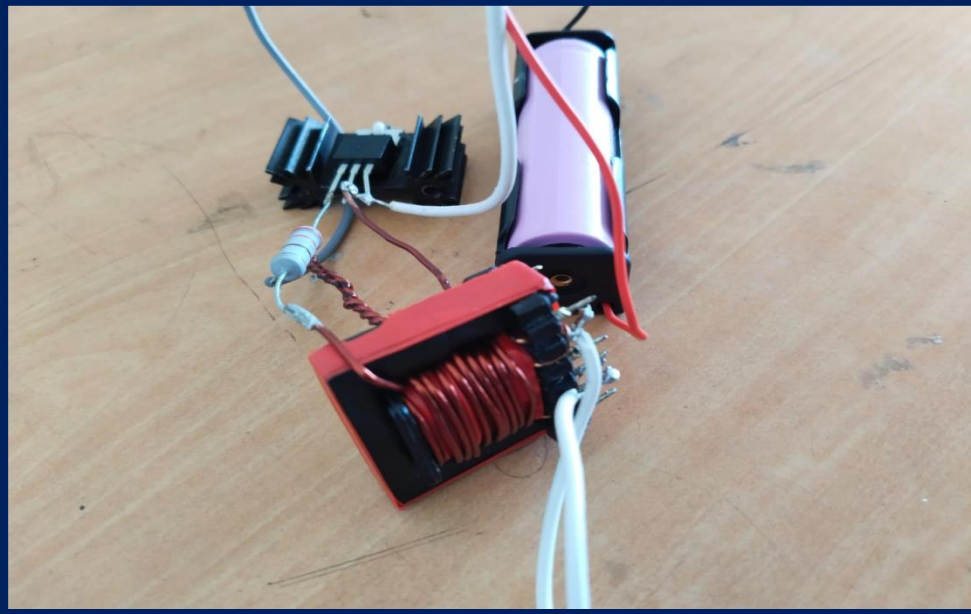
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STUDENT PARTICIPATION



S. VIGNESH (ECE), first Year student, Department of Science and Humanities as presented a **Seminar & Mini-Project on Transformer** regarding Internal assessment for the subject BE3254 - Electrical & Instrumentation Engineering on 16.06.2023 under the guidance subject incharge T. Feridinand, Assistant professor Department of EEE.

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CLASS COMMITTEE MEETING



The first Class Committee Meeting for Ist year students for the even semester, 2022-23 has been conducted on 12.06.2023 at seminar hall by the Department of Science and Humanities. Dr. Arul Kulandaivel, HoD headed the meetings for all the first year classes (Section : A - I).

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