



**REPORT  
ON**

**AICTE SPONSORED ONLINE SHORT TERM TRAINING PROGRAMME SERIES ON  
"BIG DATA ANALYTICS USING SOFT COMPUTING TOOLS ( WITH AI & ML)"  
STTP – PHASE III: 29 Nov 2021 to 05 Dec 2021 (6 days)**

Sponsored by  
All Indian Council for Technical Education

Organized by  
Department of Computer Science and Engineering,  
Rajiv Gandhi University

In association with  
Department of Electronics and Communication Engineering  
Department of Mathematics  
Rajiv Gandhi University

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## Organizing Committee

**Chief Patron**                      **Prof. Saket Kushwaha**  
Vice Chancellor, Rajiv Gandhi University

**Patrons**  
**Prof. Amitava Mitra**  
Pro Vice Chancellor, Rajiv Gandhi University  
**Dr. N. Tadar Rikam**  
Registrar, Rajiv Gandhi University  
**Prof. Shahin Ahmed**  
Dean Faculty of Engineering & Technology, Rajiv Gandhi University

**Organizing Chairman** **Prof. Utpal Bhattacharjee**  
Dept. of Computer Science & Engineering, Rajiv Gandhi University

**Coordinator** **Dr. Firos A**  
Dept. of Computer Science & Engineering, Rajiv Gandhi University

**Conveners**  
**Miss. Champa Tanga**  
Department of Electronics & Comm. Engineering, Rajiv Gandhi University  
**Dr. Saifur Rahman**  
Dept. of Mathematics, Rajiv Gandhi University

**Organizing Member**  
**Mr. Ani Taggu**, Assoc. Professor, Dept. of CSE, RGU  
**Dr. Marpe Sora**, Assoc. Professor, Dept. of CSE, RGU  
**Mrs. Bomken Bam**, Asst. Professor, Dept. of CSE, RGU  
**Dr. Sikdar Md Sultan Askari**, Asst. Professor, Dept. of CSE, RGU  
**Mr. Satish Kumar Das**, Asst. Professor, Dept. of CSE, RGU  
**Mr. Bhaskar Jyoti Chutia**, Asst. Professor, Dept. of CSE, RGU  
**Dr. Rahul Kushwaha**, Asst. Professor, Dept. of ECE, RGU  
**Dr. Jagdeep Rahul**, Asst. Professor, Dept. of ECE, RGU  
**Dr. Kurmendra**, Asst. Professor, Dept. of ECE, RGU  
**Mr. Maibam Sanju Meetei**, Asst. Professor, Dept. of ECE, RGU  
**Dr. Nipen Saikia**, Assoc. Professor, Dept. of Mathematics, RGU  
**Mrs. Dakjum Eshi**, Asst. Professor, Dept. of Mathematics, RGU

## Acknowledgement

I have immense pleasure in expressing my heartfelt gratitude to a number of individuals and institutions for their incessant assistance and encouragement during this Short-Term Training Programme. At the very outset I owe a deep sense of gratitude to Chief Patron of this STTP, **Prof. Saket Kushwaha**, Hon'ble Vice-Chancellor, RGU. I remain indebted to him for the discussions I had with him, his resourceful advice, useful suggestions and unflagging enthusiasm at every turn of this work. I am thankful to Patron of this STTP, **Dr. N. Tadarikam**, Registrar, RGU giving approval for this STTP. I express my gratitude to the Patron of this STTP, **Prof. Amitava Mitra**, in completing the procedures with Short Term Training Programme. I am grateful to **Prof. Utpal Bhattacharjee**, Professor and Secretary of this STTP, Department of Dept. Of Computer Science and Engineering, RGU, for his encouragement and help. Thanks are also due to other members of the teaching faculty, and the members of the staff in the office of the Dept. Of Computer Science and Engineering, RGU.

Thanking you.

**Dr. FIROS A**

Coordinator, STTP

Department of Computer Science and Engineering,

Rajiv Gandhi University (A Central University),

Rono Hills, Doimukh – 791112

Arunachal Pradesh, India

## Executive Summary

6 (six) days online AICTE sponsored online short term training program series on big data analytics using soft computing tools(STTP – PHASE III: 29 Nov 2021 to 05 Dec 2021 (6 days)) was organized at Rajiv Gandhi University, Arunachal Pradesh with an objective to provide the faculty and research students with an understanding of big data analytics and related soft computing tools. Department of Computer Science and Engineering, Rajiv Gandhi University in association with Department of Electronics & Communication Engineering, Rajiv Gandhi University and Department of Mathematics, Rajiv Gandhi University organized the STTP from 29 Nov 2021 to 05 Dec 2021. Eminent resource persons from the field of data science and academics handled 16 technical sessions which were dealt with in the six days of the STTP.

There are many people who contributed a lot for organizing the program successfully. I express my sincere gratitude to each and every one who made this program a success. First of all, I would like to thank Hon'ble Vice Chancellor of Rajiv Gandhi University for allowing us to organize this significant program. I express my heartfelt gratefulness to the Department of Electronics & Communication Engineering, Rajiv Gandhi University and Department of Mathematics, Rajiv Gandhi University for their constant support. I take this privilege to express my cordial appreciation to all the Resource Persons for giving their valuable time and sharing their wisdom through their course material during the STTP. I thank all the participants for actively participating in the program. Last but not least I express thanks to my colleagues and students for their continuous and positive support. It was a well organized training with a lot of inputs provided and the sessions were very informative. There were many topics covered during the program and I hope the shared course materials could spark some interest and ignite a passion to learn more about it. The details of the technical sessions are provided in detail in this report.

Thanking you.

**Dr.FIROS A**

Coordinator, STTP

Department of Computer Science and Engineering,

Rajiv Gandhi University (A Central University),

Rono Hills, Doimukh – 791112

Arunachal Pradesh, India

## **1. Introduction**

### **1.1. About Host Institution**

#### **1.1.1. Rajiv Gandhi University**

Rajiv Gandhi University (formerly Arunachal University) is the premier institution for higher education in the state of Arunachal Pradesh and has completed twenty five years of its existence. RGU is ranked among top 100 Universities in India (as per NIRF ranking). Late Smt. Indira Gandhi, the then Prime Minister of India, laid the foundation stone of the university on 4th February 1984 at Rono Hills, where the present campus is located. Ever since its inception, the university has been trying to achieve excellence and fulfill the objectives as envisaged in the University Act. The University got academic recognition under section 2(f) from the University Grants Commission on 28th March, 1985 and started functioning from 1st April, 1985. It got financial recognition under section 12-B of the UGC on 25th March, 1994. Since then Rajiv Gandhi University then Arunachal University has carved a niche for itself in the educational scenario of the country following its selection as a University with potential for excellence by a high level expert committee of University Grants Commission from among universities in India. The University was converted into a Central University with effect from 9th April 2007 as per notification of Ministry of Human Resource Development, Government of India.

The Faculty members have been actively engaged in research activities with financial support from UGC and other funding agencies. Since inception, a number of proposals on research projects have been sanctioned by various funding agencies to the University. Departments have organized a number of Seminars, Workshops and Conferences. Many faculty members participated in national and international conferences and seminars held within the country and abroad. Eminent scholars and distinguished personalities have visited the University and delivered lectures on various disciplines.

The academic year 2000-2001 was a year of consolidation for the University. The switch over from annual to semester system took off smoothly and the performance of the students registered a marked improvement. Various syllabi designed by Boards of Post-Graduate Studies (BPGS) have been implemented. VSAT facility installed by the ERNET India, New Delhi under UGC-Infonet program, provides internet access.

In spite of infrastructural constraints, the University has been maintaining its academic excellence. The University has strictly adhered to the academic calendar, conducted the examinations and declared the results in time. The students from the University have found placements not only in State and Central Government Services, but also in various institutions, industries and organizations. Many students have come out successful in the National Eligibility Test (NET). Since inception; the University has made significant progress

in teaching, research, innovations in curriculum development and developing infrastructure.

### **1.1.2. Department of Computer Science & Engineering**

The Department of Computer Science was established in 2005, with a diploma course of one-year duration, and a three-year undergraduate course, Bachelor of Computer Applications (BCA). The first and second batch of the BCA program has completed and the third batch has started from the session 2008-2009, starting from July, 2008. In the year 2006 the Master of Technology in Computer Science and Engineering was started in the department. The department has started the Master of Computer Application course from the session 2013-14.

### **1.2. About The Sponsoring Agency**

The program is fully funded by All India Council for Technical Education. According to the All India Council for Technical Education, 1987, the AICTE is vested with statutory authority for planning, formulation and maintenance of norms and standards, quality assurance through school accreditation, funding in priority areas, monitoring and evaluation, maintaining parity of certification and awards and ensuring coordinated and integrated development and management of technical education in the country. In the words of the Act itself:

To provide for establishment of an All-India council for Technical Education with a view to the proper planning and coordinated development of the technical education system throughout the country, the promotion of qualitative improvement of such education in relation to planned quantitative growth and the regulation and proper maintenance of norms and standards in the technical education system and for matters connected therewith.

#### References:

1. Our application in online mode to AICTE to get financial assistance to conduct STTP dated 19.11.2020 (under AQIS 2020-21 SHORT TERM TRAINING PROGRAMME (STTP) in NER and UTs of J&K and Ladakh scheme)
2. Financial sanction letter from AICTE Ref. No. 34-68/21/FDC/STTP-NER/P-1/2020-21, Dated 10.03.2021
3. Letter from AICTE Ref. No. Nil, Subject (permission to conduct STTP through online mode) dated 01.04.2021
4. sanctioned amount from AICTE is deposited to the university account with following details: (Account Number: 8342010000307, Bank Branch IFSC: BARB0VJARUN Amount deposited by AICTE: Rs. 300000 (Rupees Three lakhs) (Deposed on 24.03.2021)( rev a/c as other misc receipts)

### **1.3. Background**

Through this industry associated STTP, we tried to build an environment to learn about the present scenario of big data analytics in academics and industries and participants to achieve

the practical knowledge from Big data experts. This STTP helped people unfamiliar with data science to put next gear in learning and research.

Data Analytics is a conglomeration of many disciplines like computer science, statistics and business intelligence for discovering useful hidden patterns which is to be used for prediction of the future events in terms of providing useful insights. Big Data is a large volume of both structured- and unstructured data generated from different sensors and applications such as social media, text documents, videos, audios, and images. The volume, varied formats of data and the rapid velocity of its generation poses an additional challenge to seek suitable Soft Computing tools and techniques to store, process, verify and analyze it. The objective of this STTP programme is to hold a platform of discussion on various Soft Computing tools and techniques in the field of Big Data and data analytics to the participants.

#### TOPICS TO BE COVERED

- Big Data and High Dimensional Data Analysis Static and Dynamic Data Analysis
- Predictive analytics using R/Spark
- Big Data Tools for Real Time Analytics
- Introduction to the Map-Reduce framework and Hadoop
- Distributed Machine Learning and Big
- Data Analysis using Deep Learning Tools

#### **1.4. Significance And Objectives:**

1. The objectives are to provide the faculty with an understanding of big data analytics.
2. To provide the participants with an understanding of different tools related to big data analytics.
3. Data Analytics is a conglomeration of many disciplines like computer science, statistics and business intelligence for discovering useful hidden patterns which is to be used for prediction of the future events in terms of providing useful insights.
4. To get hands-on experience of Python
5. Big data is a large volume of both structured and unstructured data generated from different sensors and applications such as social media, text documents, videos, audios, and images. The volume, varied formats of data and the rapid velocity of its generation poses an additional challenge to seek suitable soft computing tools and techniques to store, process, verify and analyze it.
6. To bring the participants to the level of depth necessary in the subject matter to achieve the stated objectives.
7. To encourage participation in the National Agenda of knowledge building through online distance education mode in the lockdown period due to novel corona virus.

## 1.5. Expected Outcomes

The purpose of this program is to enable the participants to apply the skills learned through various video tutorials and presentations of the STTP. Experts in this STTP will enable the participants to learn how to utilize the Data science infrastructure in a better and productive way.

This STTP seeks to bridge the divide between what has traditionally been viewed as the sole objective of Information Technology and what can be the triple bottom line for forward-thinking Information Technology: its real application, ease of use, advancements and profit.

## 1.6. Themes And Sub-Themes

It was a 6 days STTP which aimed at providing valuable information to all the participants of the program. The main motive of this program was to enhance the best techniques of teaching methods in the present day and to update the knowledge of the faculty within special focus on data science.

### 1.6.1. Sub-Themes

The success of this Short Term Training Programme is due to the peculiar themes of this program :

- **In person.** It was increasingly feasible to create and sustain virtual networks using resources such as videoconferencing and web 2.0 communications, which allowed substantial value in bringing people together to be immersed in a common experience. Personal interactions also allow for informal communication outside the defined schedule that can be valuable to the network-building process.
- **Duration.** Experience from 6 days of STTP From 29 Nov 2021 to 05 Dec 2021 suggests that one week long program would be optimal, given the amount of new material that participants would be expected to absorb and the value of cumulative learning-by-doing.
- **Team-based.** A key element for ensuring success and enhancing sustainability in this STTP is the participation of teams from institutions, including a range of junior to senior members on each team. The adopted STTP model has shown added success and commitment by participants if their home institute provides at least modest resources to help implement what participants learn.
- **Hands-on.** As the design of the planning committee meeting of Dept of CSE, RGU suggested, the STTP built around extensive, direct participation. Participants have the opportunity to be both “students” and “teachers,” to practice the methods they are learning, and to develop “teachable tidbits” and other materials (e.g., appropriate

assessments) to help them implement their new courses or modules at their home institutions.

- **Implementation and Assessment.** An important feature of this program's hands-on approach is the commitment to assist participants in implementing what they have learned. In addition to implementing new ideas or courses, they acquired experience and resources to plan and carry out effective assessments of whether the learning goals of their new activities are being met.

### **1.6.2. Relevance**

The purpose of this program is to enable the participants to apply the skills learned through Various tutorials and presentations of the course. Participation in this course will enable the participants to learn how to utilize the Data science infrastructure in a better and productive way. This course seeks to bridge the divide between what has traditionally been viewed as the sole objective of Information Technology and what CAN be the triple bottom line for forward-thinking Information Technology: its real application, ease of use, advancements and profit.

### **1.6.3. Benefits to Faculty**

The purpose of this program is to enable the participants to apply the skills learned through Various tutorials and presentations of the course. Participation in this course will enable the participants to learn how to utilize the Data science infrastructure in a better and productive way. This course seeks to bridge the divide between what has traditionally been viewed as the sole objective of Information Technology and what CAN be the triple bottom line for forward-thinking Information Technology: its real application, ease of use, advancements and profit.

### **1.7. Budget**

Attached Separately

### **1.8. Modus Operandi**

To encourage participation in the National Agenda of knowledge building through online distance education mode in the lockdown period due to novel corona virus ( COVID-19). During the last decade, the momentum coming from both academia and industry has lifted the data science to become the single most important tool for computational statistics, visualization and forecasting. Worldwide, millions of statisticians and data scientists use big data tools to solve their most challenging problems in fields ranging from computational biology to quantitative marketing. Participants will learn the most popular language for data science and other essential tool for Finance and analytics-driven companies such as Google, Facebook ,LinkedIn etc.

## 2. Program Details:

### 2.1. Highlight of Program

1. No registration fee
2. Certificate of participation
3. Learn from home
4. For faculties/researchers
5. Tuned to suit the researchers of all domain
6. Materials of every session are communicated through mails to all registered participants.

### 2.2. The Course Details

1. **Start Date for Registration:** 22-4-2020 **Link for Registration :**  
<https://rb.gy/u7thqo>
2. **Last Date for registration:** 28-11-2021
3. **STTP Duration:** 29 Nov 2021 to 05 Dec 2021 (6 days)
4. **STTP Exam Date (Online):** 05 Dec 2021
5. **Duration of Exam:** 1 hour
6. **Total Number of Resource Persons:** 09
7. **Total Number of Technical Session:** 17
8. **Total Number of Registrations:** 274 (Details: Annexure1)
9. **Total number of participants:** 109 (Average attendance)
10. **Total number of participants completed course:** 90
11. **The faculty members and research scholars from the following states (20 states) and Union Territory registered for STTP.**
  - i. Andhra Pradesh
  - ii. Arunachal Pradesh
  - iii. Assam
  - iv. Bihar
  - v. Chhattisgarh
  - vi. Gujarat
  - vii. Haryana
  - viii. Himachal Pradesh
  - ix. Jammu and Kashmir
  - x. Karnataka
  - xi. Kerala
  - xii. Madhya Pradesh
  - xiii. Maharashtra
  - xiv. Manipur
  - xv. Punjab
  - xvi. Rajasthan
  - xvii. Tamil Nadu
  - xviii. Telagana
  - xix. Uttar Pradesh
  - xx. West Bengal

### 3. Session Wise Deliberations



#### STTP- Phase III: AICTE sponsored online STTP on “Big Data Analytics Using Soft Computing Tools (With AI & ML)”

29 Nov 2021 to 04 Dec 2021 (6 days)

#### Organized by

Department of Computer Science and Engineering  
Rajiv Gandhi University (A Central University)  
Doimukh, Arunachal Pradesh-791112

#### Organizing partners:

Department of ECE, RGU and  
Department of Mathematics, RGU



#### PROGRAM SCHEDULE

Inaugural Session

Date :29 Nov 2021

10:00 AM -10:05 AM: Welcome Address by Organising Chairman

10:05 AM -10:10 AM: Address by Coordinator

10:10 AM -10:15 AM: Theme of Programme by Convenor

10:15 AM -10:20 AM: Vote of Thanks by Convenor

( Mode : Online , Hosting Venue : Department of CSE, RGU , Link for Joining : <https://meet.google.com/ueu-vvrv-umf> )

Link for STTP WhatsApp Group : <https://chat.whatsapp.com/EY2I65xbJwRI9nMkseTuVg>

### Technical Session

Days	10:00 AM -11:30 AM	11:30 AM -1:00 PM	1:00 PM - 2:00 PM	2:00 PM -3:30 PM
Day 1: 29-11-2021 (Monday)	<b>Topic</b> :Data Analysis using Pandas  <b>Mr. Rocky Jagtiani,</b> Head Training &Development ,Suven Consultants & Technology Pvt ltd	<b>Topic</b> :Data Analysis using Pandas ( Cont..)  <b>Mr. Rocky Jagtiani,</b> Head Training &Development ,Suven Consultants & Technology Pvt ltd	<b>Lunch Break</b>	<b>Topic</b> :Case Study on Data Analysis : Analyzing a dataset on the churn rate of telecom operator clients  <b>Mr. Rocky Jagtiani,</b> Head Training &Development ,Suven Consultants & Technology Pvt ltd
Day 2: 30-11-2021 (Tuesday)	<b>Topic</b> :Understanding Customer Segmentation - Advantages & Need  <b>Mr. Rocky Jagtiani,</b> Head Training &Development ,Suven Consultants & Technology Pvt ltd	<b>Topic</b> :Understanding Customer Segmentation - Advantages & Need ( Cont..)  <b>Mr. Rocky Jagtiani,</b> Head Training &Development ,Suven Consultants & Technology Pvt ltd		<b>Topic</b> :Analysing real time data from Ulabox's website ( <a href="https://www.ulabox.com/">https://www.ulabox.com/</a> ) : Solving an Case study on Customer Segmentation  <b>Mr. Rocky Jagtiani,</b> Head Training &Development ,Suven Consultants & Technology Pvt ltd
Day 3: 01-12-2021(Wednesday)	<b>Topic</b> :BIG DATA ANALYTICS: Cyber Security to Smart Grids <b>Dr. Santosh Biswas</b> Associate Professor, Department of Computer Science & Engineering Indian Institute of Technology Guwahati	<b>Topic</b> :Artificial Intelligence and Machine Learning in Library Services <b>Dr. Ann Baby</b> ,Assistant Professor ,Rajagiri College of Social SciencesKalamassery Cochin		<b>Topic</b> :Support Vector Machine and it's implementation <b>Dr.P.Thiyagarajan</b> ,Assistant Professor, Department of Computer Science, Central University of Tamil Nadu

Days	10:00 AM -11:30 AM	11:30 AM -1:00 PM	2:00 PM -3:30 PM
Day 4: 02-12-2021(Thursday)	<p><b>Topic:</b>Time Series forecasting - Principles &amp; Coding concepts</p> <p><b>Mr. Rocky Jagtiani,</b> Head Training &amp;Development ,Suven Consultants &amp; Technology Pvt ltd</p>	<p><b>Topic</b> :Time Series forecasting - Principles &amp; Coding concepts ( Cont..)</p> <p><b>Mr. Rocky Jagtiani,</b> Head Training &amp;Development ,Suven Consultants &amp; Technology Pvt ltd</p>	<p><b>Topic</b> :Solving a Case Study - Analysing daily time series of Open Power System Data (OPSD) for Germany codesmells Detection Using Machine Learning</p> <p><b>Mr. Rocky Jagtiani,</b> Head Training &amp;Development ,Suven Consultants &amp; Technology Pvt ltd</p>
Day 5: 03-12-2021 (Friday)	<p><b>Topic</b> :Making Sense from Textual Data</p> <p><b>Dr Vivek Kumar Singh</b> Professor &amp; Head, Department of Computer Science, Banaras Hindu University, Varanasi - 221005, U.P. (India)</p>	<p><b>Topic</b> :Fundamentals of Deep Learning Algorithms and Myths on Machine Learning vs Data Science</p> <p><b>Prof P K Mishra,</b> Professor&amp;,Department of Computer Science, Institute of Science Banaras Hindu University</p>	<p><b>Topic</b> :Introduction to Big Data Analytics and Role of AI/ML in Big data.</p> <p><b>Mr. Nasim Alam</b> ,Senior Deep Learning Engineer (Speech/NLP) Company: DataToBiz Pvt Ltd Mohali Punjab</p>
Day 6: 04-12-2021 (Saturday)	<p><b>Topic:</b> Data Science Vs Fake News</p> <p><b>Dr. Lajish V. L.,</b> Assistant Professor &amp;Head , Department of Computer Science, University of Calicut</p>	<p><b>Topic</b> :NEP 2020- A flexible approach in Education</p> <p><b>Dr. NisanthP.M ,</b> Assistant Professor ,Depart ment of Education ,Rajiv Gandhi University (A central university)Rono-Hills, Doimukh-791112, Arunachal Pradesh</p>	<p><b>Examination</b></p>



Cert Phase-2 CSE RGU AICT

**Day 1: 29-11-2021 (Monday)**

<b>Topic311 :</b>	Data Analysis using Pandas
<b>Mr. Rocky Jagtiani, Head Training &amp; Development, Suven Consultants &amp; Technology Pvt Ltd, Mumbai, Maharashtra 400071</b>	
<b>Educational Qualification</b>	
<ul style="list-style-type: none"><li>• BE(Instrumentation) from Mumbai University – 1996-1999</li><li>• Post Graduate Diploma in Software Technology from NCST (National Center of Software Technology -Now called CDAC) – 1999 - 2000</li><li>• ME(Information Technology) from VESIT, Chembur, Mumbai University - 2004-2006</li></ul>	
<b>Professional Experience</b>	
<ul style="list-style-type: none"><li>• Heading - Training &amp; Content Development at Suven Consultants &amp; Technology Pvt Ltd. ( - an IT Recruitment Firm hiring for more than 40 Top IT MNC's in India )</li><li>• Consulting as Industry mentor- Data Science and AI for SPIT, Andheri, Mumbai training on Python, Data Analytics and Machine learning to students and working professionals.</li><li>• Been most engaging resource person for AICTE sponsored FDP programmes for taking hands-on session w.r.t topics related to Intelligent Automation, Machine learning and Deep learning for real time problem solving across non-cs branches. Have trained more than 1500 engineering college faculty still date through AICTE sponsored FDP programmes.</li><li>• Subject Expert &amp; Content developer for Databases at Upgrad for a joint training programme by TechMahindra.</li><li>• Consulting as Industry mentor to NMIMS University, Indore; for Content and training Faculties and Students of the MBA-Tech and B-Tech programmes in Data Science.</li><li>• Trainer has total 20 years of Corporate training/teaching experience out of which recent 8 years (since 2012) has been into corporate training on various programming languages, Data Science and Machine Learning.</li><li>• Trainer is empanelled with EnY, Accenture and Morgan Stanley to periodically train their new joiners on Python, Machine learning and Data Analytics.</li><li>• Trainer is empanelled with RTI (Regional Training Institute, BKC) to train CAG ( Comptroller Auditor General , Central Govt.) employees on Oracle SQL , PL/SQL and BI tools like Qlikview. Trainer is certified in Oracle databases, Google analytics and as Oracle Java Professional</li></ul>	
<b>Major Points Discussed :</b>	
<ul style="list-style-type: none"><li>• Content quality comes up more and more in the SEO context. Focusing on content quality was the winning underutilised SEO tactic in our expert roundup, and low value content is one of the major causes of manual and algorithmic Google penalties, notably Google Panda.</li><li>• Google Panda is a series of on-going algorithm updates and data refreshes for the Google search engine that the company rolls out to help refine its search algorithm to improve the value of search query results for users.</li><li>• The Panda algorithm (named after Google engineer Navneet Panda) is designed to help Google improve the quality of search results by down-ranking low quality content.</li><li>• The basic principle here is that Google assigns a particular quality score to each website in its index (the score is assigned site-wide, not to</li></ul>	

separate pages.)

- Sure thing, there's no "gut feeling" that helps Panda identify real quality.
- Panda is only an algorithm that checks your website for a number of factors that Google assumes are features of a high quality website.
- Then, by applying some math, it gives the site a specific quality score based on the results of this check.

NB link :

<https://colab.research.google.com/drive/1urQluCpCHPdf578OH1Bid4tOnmuMzErr?usp=sharing>

pandas cheet sheet

- [https://drive.google.com/file/d/1dAhP\\_70XA9DAqk60qiOA98fuwhlhFwm9/view?usp=sharing](https://drive.google.com/file/d/1dAhP_70XA9DAqk60qiOA98fuwhlhFwm9/view?usp=sharing)
- <https://colab.research.google.com/github/jakevdp/PythonDataScienceHandbook/blob/master/notebooks/05.07-Support-Vector-Machines.ipynb#scrollTo=b0XE7Ga9XeP2>
- [https://colab.research.google.com/github/akshayrb22/playing-with-data/blob/master/supervised\\_learning/support\\_vector\\_machine/svm.ipynb#scrollTo=1b0JuZMXXmQH](https://colab.research.google.com/github/akshayrb22/playing-with-data/blob/master/supervised_learning/support_vector_machine/svm.ipynb#scrollTo=1b0JuZMXXmQH)
- <https://towardsdatascience.com/statistics-for-machine-learning-r-squared-explained-425ddfeb667>
- <https://www.statisticshowto.com/probability-and-statistics/coefficient-of-determination-r-squared/>
- [https://raw.githubusercontent.com/jenfly/opsd/master/opsd\\_germany\\_daily.csv](https://raw.githubusercontent.com/jenfly/opsd/master/opsd_germany_daily.csv)

<b>Topic312 :</b>	Data Analysis using Pandas ( Cont..)
<b>Mr. Rocky Jagtiani,Head Training &amp; Development ,Sven Consultants &amp; Technology Pvt ltd, Mumbai, Maharashtra 400071</b>	
<b>Educational Qualification</b>	
<ul style="list-style-type: none"> <li>• BE(Instrumentation) from Mumbai University – 1996-1999</li> <li>• Post Graduate Diploma in Software Technology from NCST (National Center of Software Technology -Now called CDAC) – 1999 - 2000</li> <li>• ME(Information Technology) from VESIT, Chembur, Mumbai University - 2004-2006</li> </ul>	
<b>Professional Experience</b>	
<ul style="list-style-type: none"> <li>• Heading - Training &amp; Content Development at Sven Consultants &amp; Technology Pvt ltd. ( - an ITRecruitment Firm hiring for more than 40 Top IT</li> </ul>	

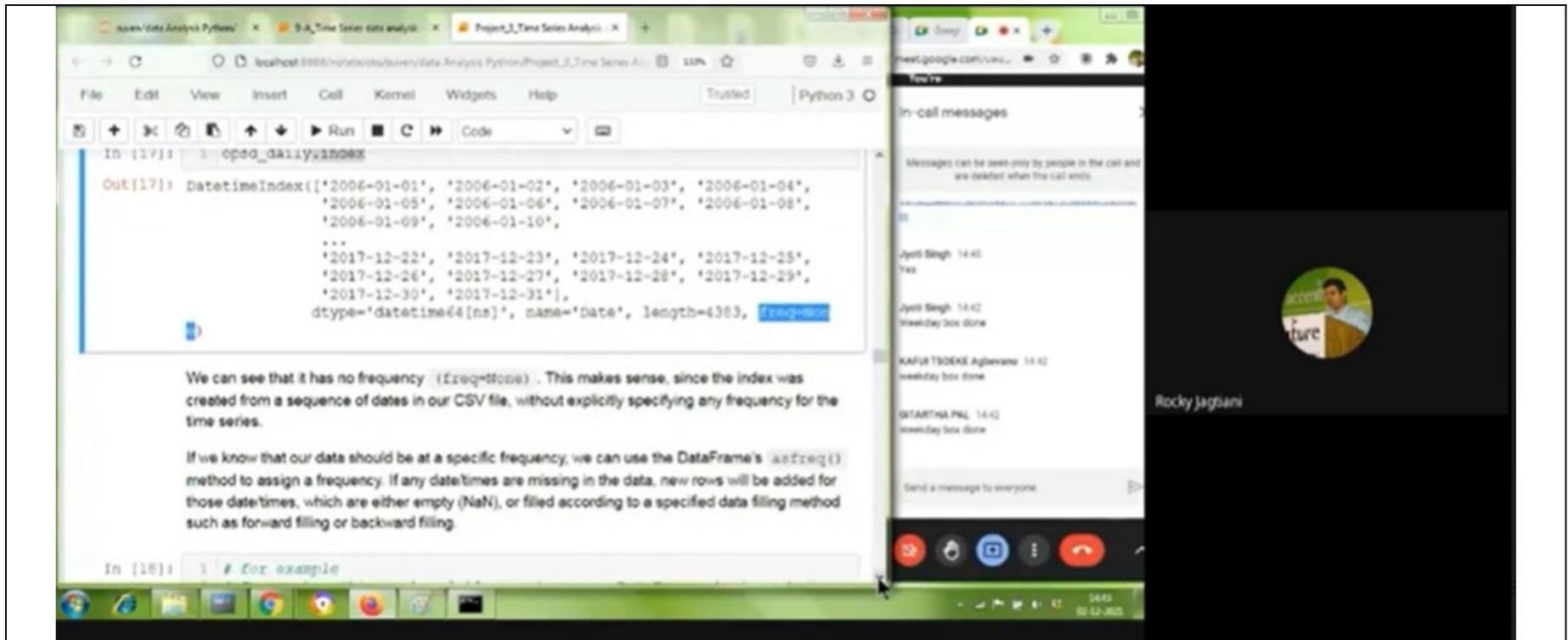
MNC's in India )

- Consulting as Industry mentor- Data Science and AI for SPIT, Andheri, Mumbai training on Python, Data Analytics and Machine learning to students and working professionals.
- Been most engaging resource person for AICTE sponsored FDP programmes for taking hands-on session w.r.t topics related to Intelligent Automation, Machine learning and Deep learning for real time problem solving across non-cs branches. Have trained more than 1500 engineering college faculty still date through AICTE sponsored FDP programmes.
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**Major Points Discussed:**

- Panda is used to assign your website a particular score depending on its "quality" — now let's think of the factors that may be involved in the assessment.
- unsurprisingly, the first step in completing a content audit is to... find all your content.
- And since the Panda score is assigned site-wide, it is not enough to audit just the most important pages — you need to check your entire site to make sure no low quality content is dragging your overall website quality score down.



<b>Topic313 :</b>	Case Study on Data Analysis : Analyzing a dataset on the churn rate of telecom operator clients
<b>Mr. Rocky Jagtiani,Head Training &amp; Development ,Suven Consultants &amp; Technology Pvt Ltd, Mumbai, Maharashtra 400071</b>	
<p><b>Educational Qualification</b></p> <ul style="list-style-type: none"> <li>• BE(Instrumentation) from Mumbai University – 1996-1999</li> <li>• Post Graduate Diploma in Software Technology from NCST (National Center of Software Technology -Now called CDAC) – 1999 - 2000</li> <li>• ME(Information Technology) from VESIT, Chembur, Mumbai University - 2004-2006</li> </ul> <p><b>Professional Experience</b></p> <ul style="list-style-type: none"> <li>• Heading - Training &amp; Content Development at Suven Consultants &amp; Technology Pvt Ltd. ( - an ITRecruitment Firm hiring for more than 40 Top IT MNC's in India )</li> </ul>	

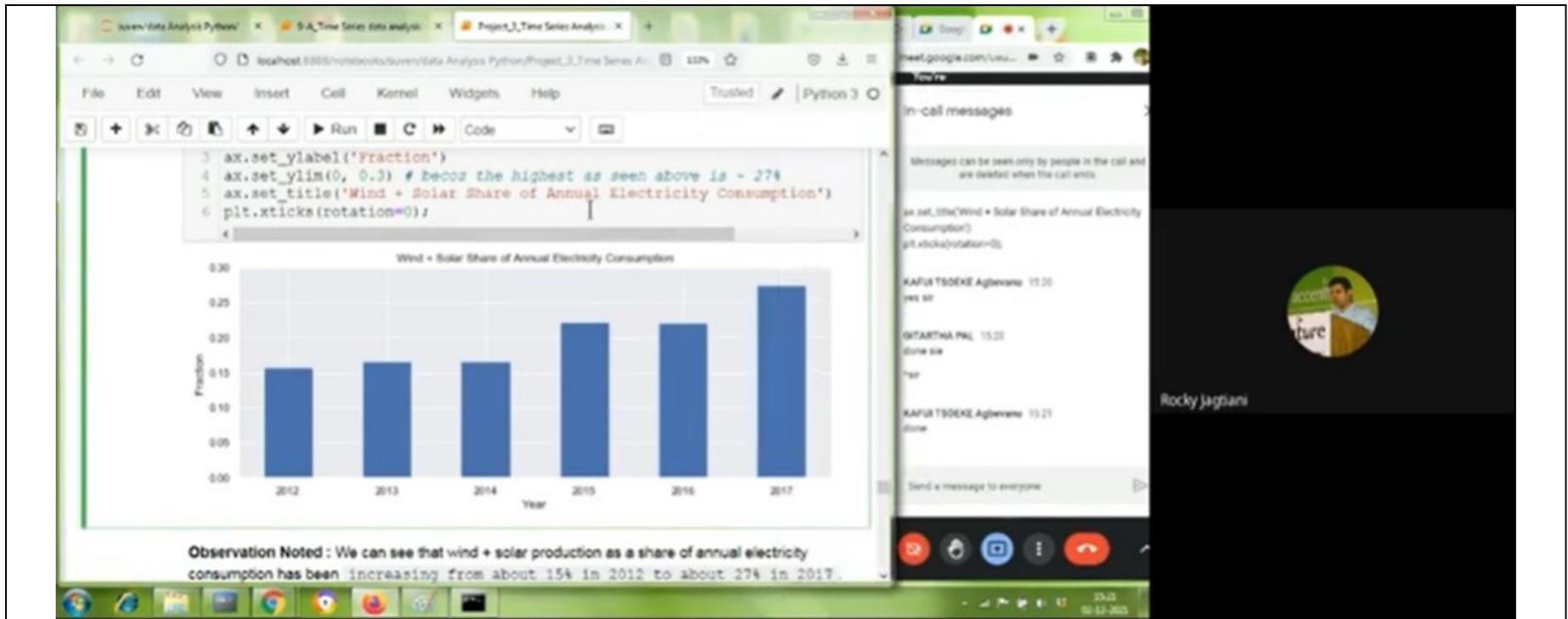
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#### **Major Points Discussed:**

- How to check
  - Launch WebSite Auditor and create a new project for your website.
  - Enter your website's URL and hit Next.
  - Now, give WebSite Auditor a couple of minutes (depending on the size of your website) to collect and list your site's pages.
  - When the crawl is complete, switch to the Pages dashboard to view all your pages.
- The optimal way to deal with problematic content largely depends on the size of your site.
  - For a small website (>100 pages), removing low quality content is something you cannot afford. Your key strategy is to improve on every problematic page, rather than delete it.
  - For a medium-sized site (100-1000 pages), removing some of the low-quality content is possible. But your main focus will be on improving content at least for the most important pages.
  - For a large website (>1000 pages), improving all problematic pages is a huge piece of work, so your focus would be to "weed out" and remove the unnecessary and low-quality content.

<https://colab.research.google.com/drive/1Eq5xu9LbB0rnxr3ohUEYAhGNu3a8GSpx?usp=sharing>



Day 2: 30-12-2021 (Tuesday)

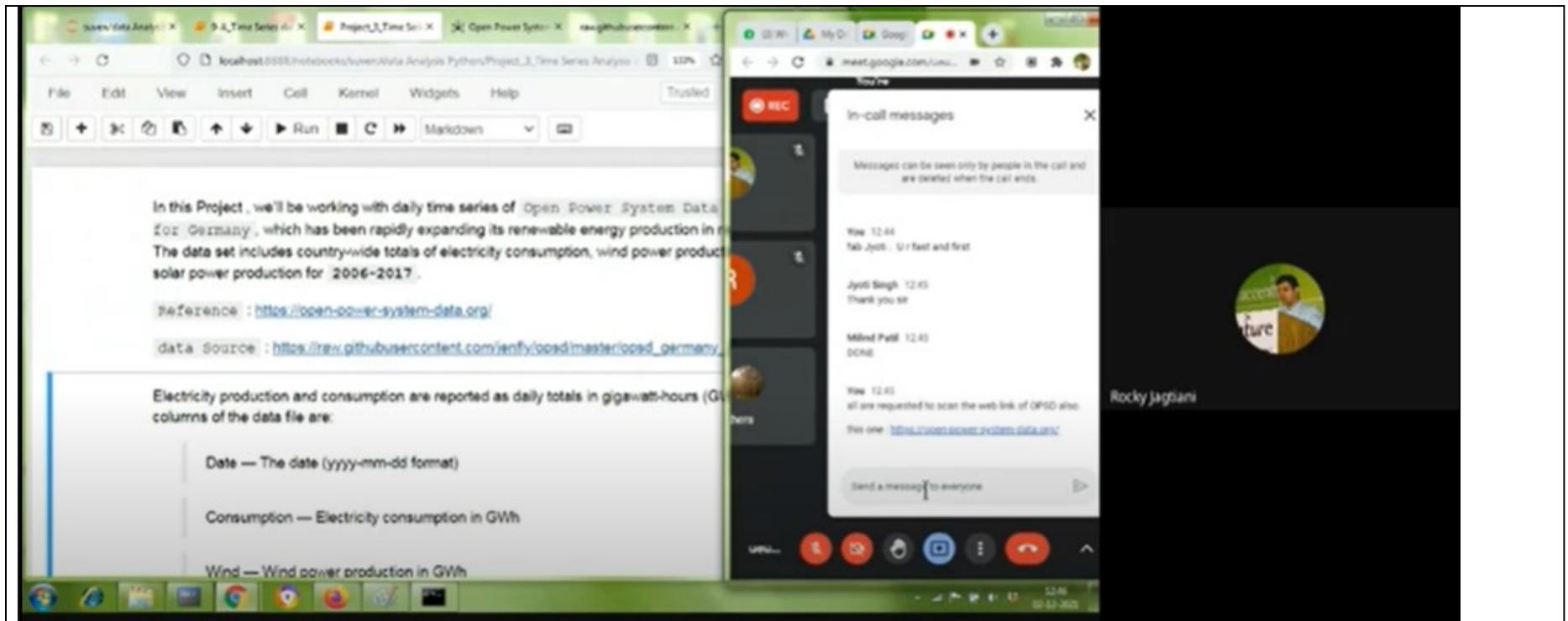
<b>Topic321 :</b>	Understanding Customer Segmentation - Advantages & Need
<b>Mr. Rocky Jagtiani, Head Training &amp; Development , Suven Consultants &amp; Technology Pvt Ltd, Mumbai, Maharashtra 400071</b>	
<b>Educational Qualification</b>	
<ul style="list-style-type: none"> <li>• BE(Instrumentation) from Mumbai University – 1996-1999</li> <li>• Post Graduate Diploma in Software Technology from NCST (National Center of Software Technology -Now called CDAC) – 1999 - 2000</li> <li>• ME(Information Technology) from VESIT, Chembur, Mumbai University - 2004-2006</li> </ul>	
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**Major Points Discussed:**

- Customer analytics go beyond just making smart marketing decisions. They can also have a huge impact on your bottom line
- Customer analytics, also called customer data analysis, is the process of collecting and analyzing customer data to gain insights on customer behavior.
- Customer analytics requires various tools for collecting and organizing different types of data, and a methodological framework for analyzing and understanding this data. Companies use analytics to make business decisions related to marketing, product development, sales, and more.
- The business decisions that customer analytics allow you to make could be simple ones, such as figuring out which advertising platform is giving you the best ROI.
- They can also be complex business decisions like figuring out your entire customer journey and building personalized marketing campaigns to match that.
- . <https://colab.research.google.com/drive/1cMyoFVHEJNcGPbqmLTgdhpwT70N8vh5J?usp=sharing>



<b>Topic322 :</b>	Understanding Customer Segmentation - Advantages & Need ( Cont..)
<b>Mr. Rocky Jagtiani,Head Training &amp; Development ,Suven Consultants &amp; Technology Pvt Ltd, Mumbai, Maharashtra 400071</b>	
<b>Educational Qualification</b>	
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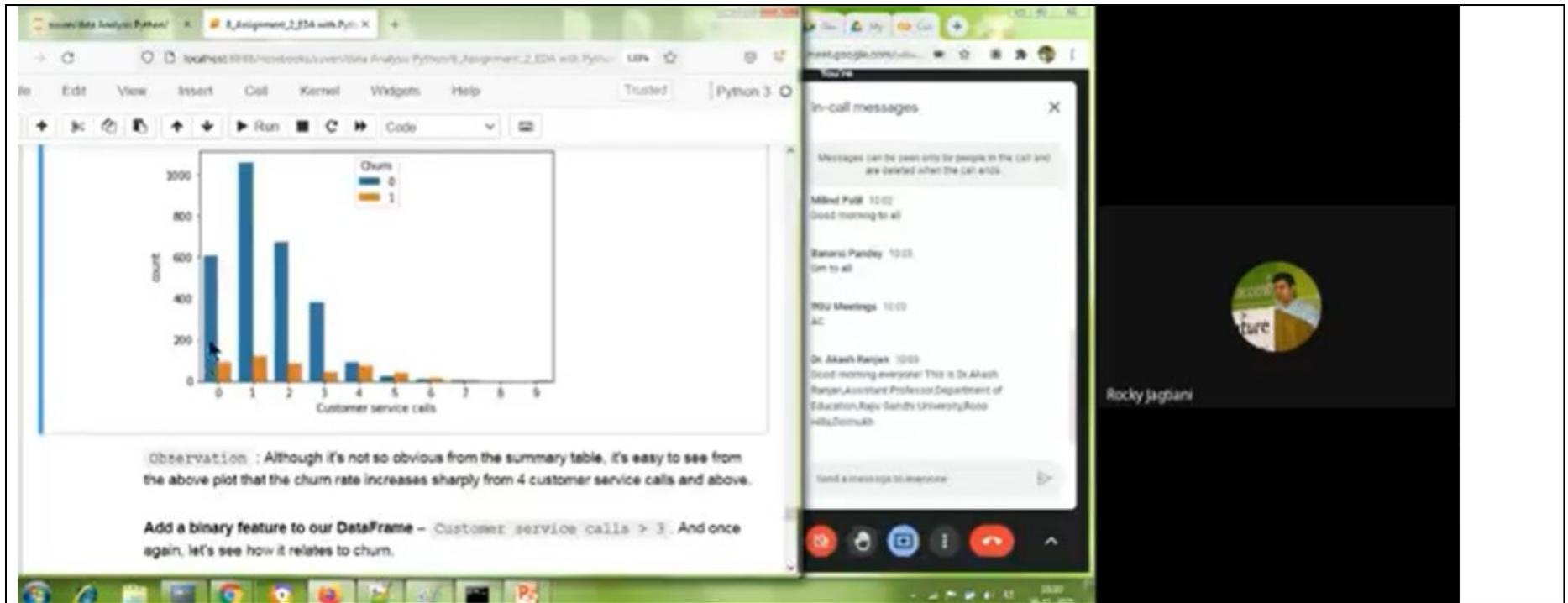
and working professionals.

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**Major Points Discussed:**

- Data collection
  - First, you need some way to collect data. Many of the marketing tools that your team uses collect data. Google Analytics, for example, collects data about the behavior of your website visitors.
  - The number of tools that fall into this category is too long to list. We already mentioned Google Analytics, but there's also HubSpot, Mailchimp, Optimizely, and so many more integrations.
  - Some of these data collection tools will give you certain insights into your customers, but it's usually not enough. That's why you need the next three pieces.
- Data sorting
  - Next, you need a way to sort your data and direct it to the right place for analysis. A customer data platform (CDP), like Segment, will help you do this. Your CDP is like the traffic director of your data. It's going to tell your data what to do and where to go.
  - CDPs are designed to connect multiple tools together and ensure the data those tools are collecting is standardized across your organization. Standardized data, controlled by a tracking plan, is much easier to sort and analyze than non-standard, unstructured data.
- Data storage
  - The third piece you'll need is a place for your CDP to send data for storage. Data warehouses are built for this, and they're essential to customer analytics.
  - Data warehouses collect and store data from a number of sources — website, app, email, other cloud-based tools. Redshift is the most popular data warehouse among our users, but there are plenty of others like BigQuery and Postgres.
  - The best part is that a data warehouse also keeps your data organized, which will come in handy for the last piece of customer analytics.
  - If you haven't selected the data warehouse that you're going to use to store your data, now's the time to start that process. Read [Selecting the Right Data Warehouse for Analytics](#) to make the selection process easy for your company.



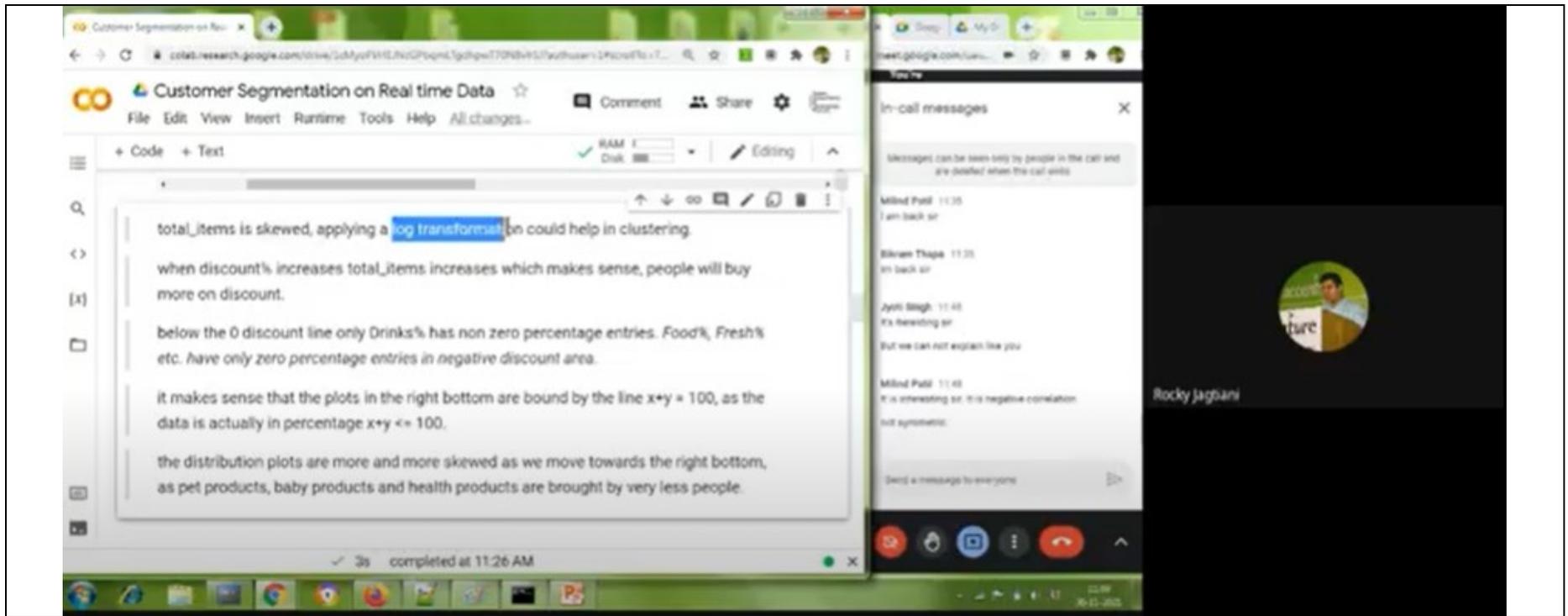
<b>Topic323 :</b>	Analysing real time data from Ulabox's website ( <a href="https://www.ulabox.com/">https://www.ulabox.com/</a> ) : Solving an Case study on Customer Segmentation
<b>Mr. Rocky Jagtiani,Head Training &amp; Development ,Suven Consultants &amp; Technology Pvt ltd, Mumbai, Maharashtra 400071</b>	
<b>Educational Qualification</b>	
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**Major Points Discussed:**

- Data analysis
  - Lastly, you'll need some way to analyze your data.
  - This is most often done with a business intelligence tool like Mode Analytics, Looker, or Tableau. The only downside to these tools is that they require some knowledge of SQL. If you don't know SQL, you can also look at a tool like Chartio.
  - With customer analytics, you'll be able to build more personalized, timely marketing campaigns.
  - Customer analytics can also help your sales team understand your customers' buying process. That knowledge can help them reduce your sales cycle.
  - Your product team can use customer analytics to build a better product by uncovering what features your customers love and what they don't like.

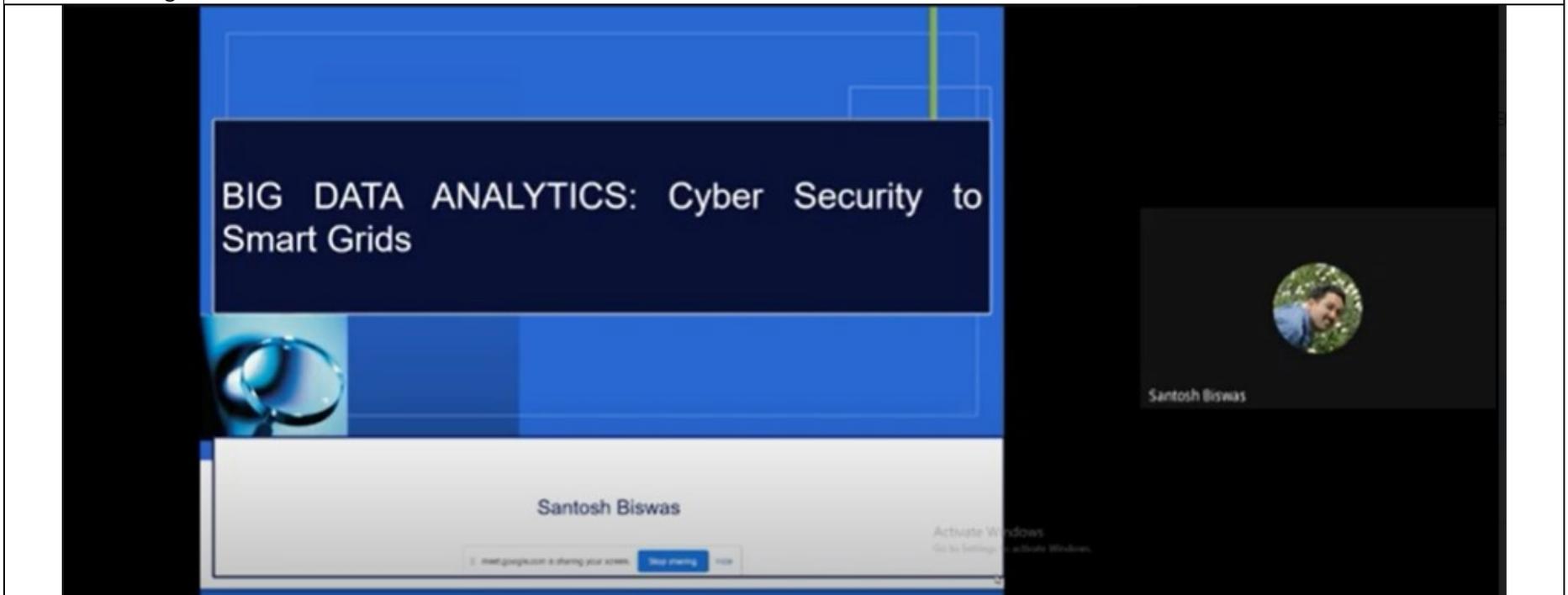


**Day 3: 01-12-2021(Wednesday)**

<b>Topic331 :</b>	BIG DATA ANALYTICS: Cyber Security to Smart Grids
<p><b>Dr. Santosh Biswas</b> Associate Professor, Department of Computer Science &amp; Engineering, Indian Institute of Technology ,Guwahati</p>	
<p><b>Dr. Santosh Biswas</b> is Associate Professor, Department of Computer Science &amp; Engineering Indian Institute of Technology, Guwahati. He has more than 20 years of experience in teaching and research. His primary research interests are in Information Systems and Text Analytics. He has published about 60 research papers (including more than 40 in top SCIE indexed journals). He has supervised over 5 Doctoral thesis and more than 50 Master’s thesis. He has obtained research grants from several national and international funding agencies and have worked on 08 extramural research projects. He is Editor of several Scopus indexed Journal. He is member of academic bodies of different Universities and an expert member in several research bodies.</p>	

**Major Points Discussed:**

- C4. 5 Algorithm.
- K-mean Algorithm.
- Support Vector Machines.
- Apriori Algorithm.
- Expectation-Maximization Algorithm. ...
- PageRank Algorithm.
- Adaboost Algorithm.
- kNN Algorithm.



**Dr. Ann Baby** ,Assistant Professor ,Rajagiri College of Social SciencesKalamassery , Cochin

A PhD holder in Computer Science from Bharathiar University, she is a University rank holder in her post-graduation and also holds an M.Phil degree. With more than 17 years of teaching experience in the Postgraduate level, she has to her credit several research papers, published in reputed National and International journals. Her latest journal article has been published in the Q1 journal, Computers in Human Behaviour. Mrs. Ann Baby was the conference coordinator of several funded workshops and seminars. She has also successfully completed a UGC funded Minor Research Project. She has conducted training programmes for international corporates like NEC Communications, Japan and the Dubai Port World. She is a lifetime member of CSI (Computer Society of India). She is the resource person for several expert sessions on Cyber Security, Data Analytics, Machine Learning, Digital Libraries, Swachtha and Environment Friendliness.

**Major Points Discussed:**

- What the boosting ensemble method is and generally how it works.
- How to learn to boost decision trees using the AdaBoost algorithm.
- How to make predictions using the learned AdaBoost model.
- How to best prepare your data for use with the AdaBoost algorithm
- AdaBoost is best used to boost the performance of decision trees on binary classification problems.
- AdaBoost was originally called AdaBoost.M1 by the authors of the technique Freund and Schapire. More recently it may be referred to as discrete AdaBoost because it is used for classification rather than regression.
- AdaBoost can be used to boost the performance of any machine learning algorithm. It is best used with weak learners. These are models that achieve accuracy just above random chance on a classification problem.
- The most suited and therefore most common algorithm used with AdaBoost are decision trees with one level. Because these trees are so short and only contain one decision for classification, they are often called decision stumps.

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<b>Topic333</b>	Support Vector Machine and its implementation
<b>Dr.P.Thiyagarajan</b> , Assistant Professor, Department of Computer Science, Central University of Tamil Nadu	
<p><b>Dr.P.THIYAGARAJAN</b> is presently Assistant Professor in the Department of Computer Science Central University of Tamil Nadu. His broad areas of research include Machine Learning, Cryptography, Big Data Analytics, Information Security, and IoT. He has published more than 40 research papers – which includes 03 book – in various reputed journals/conferences. He is an active review member of a few SCI indexed journals, and core ranked conferences. He is the recipient of <b>Young Scientist Award</b> by TamilNadu State Council for Science and Technology , 'Post-Doctoral Fellow' awarded by Department of Atomic Energy and 'Best Technical Award' by Aricent Technologies .</p> <p>He has 3 Projects Completed worth of 10.5 lakhs funded by</p>	

ICSSR and MHRD.

He Delivered 100 + invited talks in colleges and universities on various technical topics

**Major Points Discussed:**

- What the boosting ensemble method is and generally how it works.
- How to learn to boost decision trees using the AdaBoost algorithm.
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## Supervised Learning – Support Vector Machine

**AICTE – STTP on Big Data Analytics using Soft Computing Tools**

**Rajiv Gandhi University – Arunachal Pradesh**

**Date : 1-December-2021**

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**Dr.P.Thiyagarajan**  
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Department of Computer Science  
Central University of Tamil Nadu  
Thiruvarur – 610 005.  
Email : [thiyagu@cutn.ac.in](mailto:thiyagu@cutn.ac.in) Mobile : 0 9488584015





**Day 4: 02-12-2021(Thursday)**

<b>Topic341 :</b>	Time Series forecasting - Principles & Coding concepts
<b>Mr. Rocky Jagtiani,Head Training &amp; Development ,Suven Consultants &amp; Technology Pvt ltd, Mumbai, Maharashtra 400071</b>	
<b>Educational Qualification</b>	
<ul style="list-style-type: none"> <li>BE(Instrumentation) from Mumbai University – 1996-1999</li> <li>Post Graduate Diploma in Software Technology from NCST (National Center of Software Technology -Now called CDAC) – 1999 - 2000</li> <li>ME(Information Technology) from VESIT, Chembur, Mumbai University - 2004-2006</li> </ul>	
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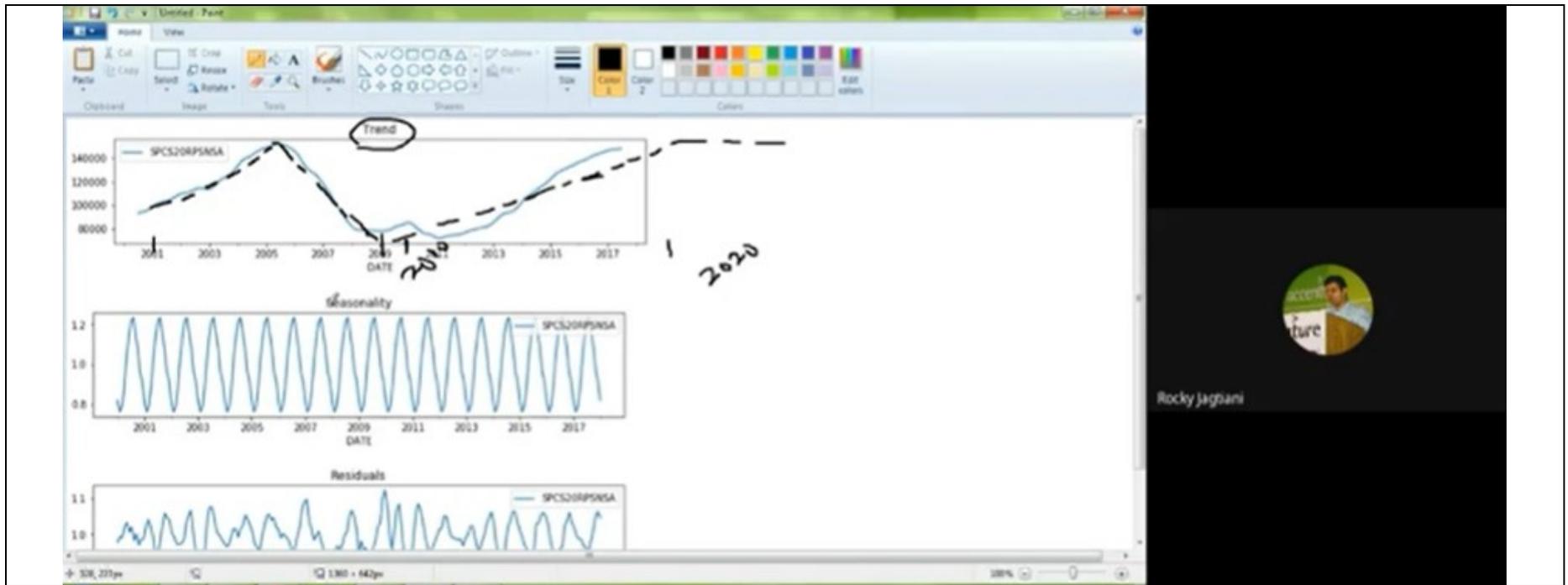
and working professionals.

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**Major Points Discussed:**

- Time Series (referred as TS from now) is considered to be one of the less known skills in the data science space (Even I had little clue about it a couple of days back).
- These will definitely help you get a decent model in any future project you take up.
- It is time dependent. So the basic assumption of a linear regression model that the observations are independent doesn't hold in this case.
- Along with an increasing or decreasing trend, most TS have some form of seasonality trends, i.e. variations specific to a particular time frame. For example, if you see the sales of a woolen jacket over time, you will invariably find higher sales in winter seasons.
- <https://colab.research.google.com/drive/1zU7708BhXGp1Z0gWg6z79Bbrf4tE9y1j?usp=sharing>



<b>Topic342 :</b>	Time Series forecasting - Principles & Coding concepts ( Cont..)
<b>Mr. Rocky Jagtiani, Head Training &amp; Development ,Soven Consultants &amp; Technology Pvt Ltd, Mumbai, Maharashtra 400071</b>	
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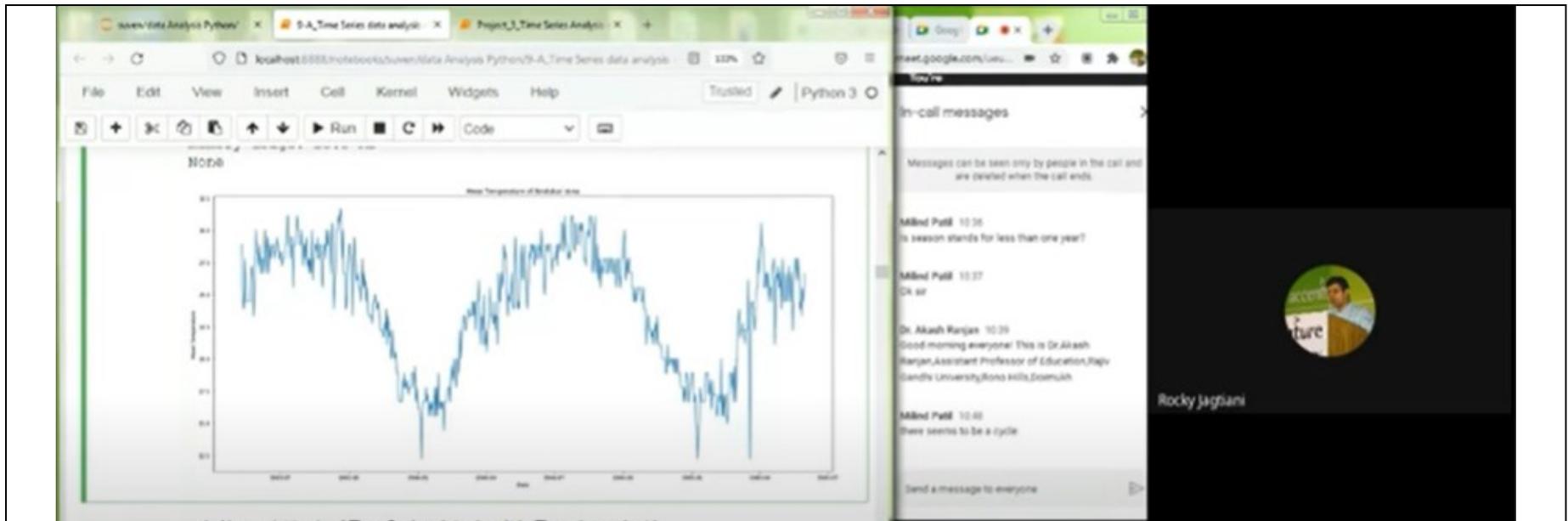
engineering college faculties still date through AICTE sponsored FDP programmes.

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**Major Points Discussed:**

- Pandas has dedicated libraries for handling TS objects, particularly the `datetime64[ns]` class which stores time information and allows us to perform some operations really fast. Lets start by firing up the required libraries:
  - `parse_dates`: This specifies the column which contains the date-time information. As we say above, the column name is 'Month'.
  - `index_col`: A key idea behind using Pandas for TS data is that the index has to be the variable depicting date-time information. So this argument tells pandas to use the 'Month' column as index.
  - `date_parser`: This specifies a function which converts an input string into datetime variable. By default Pandas reads data in format 'YYYY-MM-DD HH:MM:SS'. If the data is not in this format, the format has to be manually defined. Something similar to the `dateparser` function defined here can be used for this purpose.



<b>Topic343 :</b>	Solving a Case Study - Analysing daily time series of Open Power System Data (OPSD) for Germany
<b>Mr. Rocky Jagtiani,Head Training &amp; Development ,Soven Consultants &amp; Technology Pvt Ltd, Mumbai, Maharashtra 400071</b>	
<b>Educational Qualification</b>	
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<b>Professional Experience</b>	
<ul style="list-style-type: none"> <li>• Heading - Training &amp; Content Development at Soven Consultants &amp; Technology Pvt Ltd. ( - an ITRecruitment Firm hiring for more than 40 Top IT MNC's in India )</li> <li>• Consulting as Industry mentor- Data Science and AI for SPIT, Andheri, Mumbai training on Python,Data Analytics and Machine learning to students and working professionals.</li> <li>• Been most engaging resource person for AICTE sponsored FDP programmes for taking hands-on session w.r.t topics related to Intelligent Automation, Machine learning and Deep learning for real time problem solving across non-cs branches. Have trained more than 1500 engineering college faculties till date through AICTE sponsored FDP programmes.</li> </ul>	

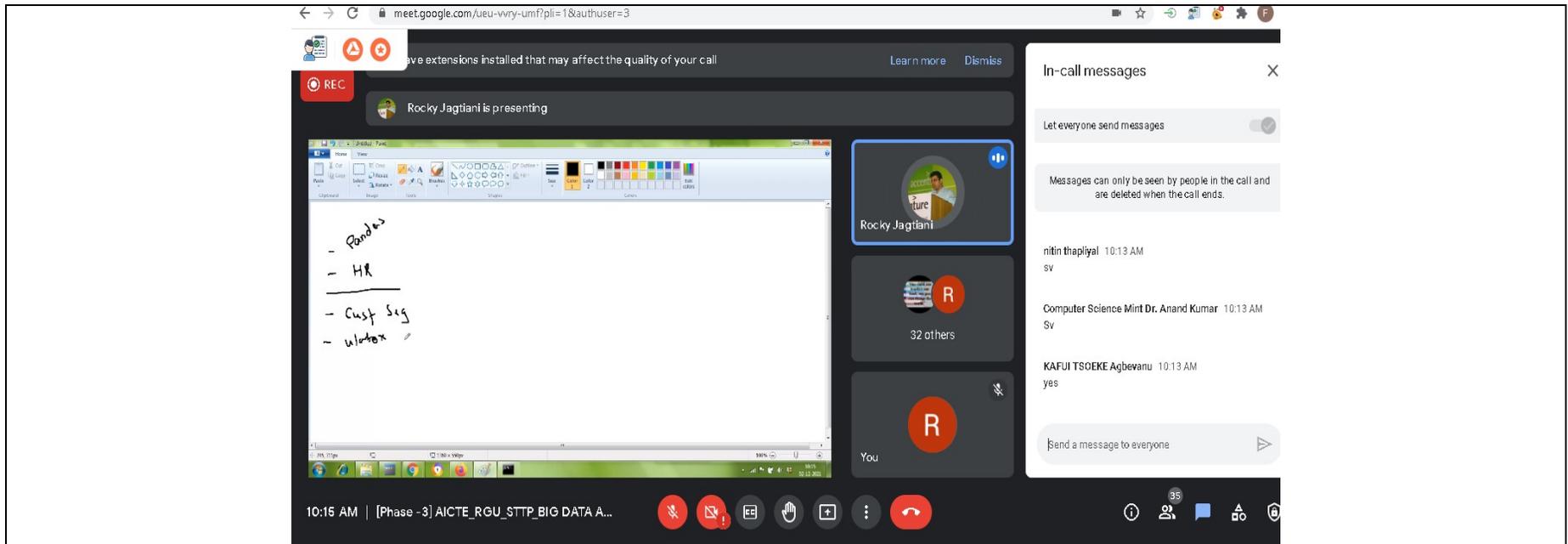
- Subject Expert & Content developer for Databases at Upgrad for a joint training programme by TechMahindra.
- Consulting as Industry mentor to NMIMS University, Indore; for Content and training Faculties and Students of the MBA-Tech and B-Tech programmes in Data Science.
- Trainer has total 20 years of Corporate training/teaching experience out of which recent 8 years (since 2012) has been into corporate training on various programming languages, Data Science and Machine Learning.
- Trainer is empanelled with EnY, Accenture and Morgan Stanley to periodically train their new joiners on Python, Machine learning and Data Analytics.

Trainer is empanelled with RTI (Regional Training Institute, BKC) to train CAG ( Comptroller Auditor General ,Central Govt.) employees on Oracle SQL , PL/SQL and BI tools like Qlikview. Trainer is certified in Oracle databases, Google analytics and as Oracle Java Professional

**Major Points Discussed:**

- Stationarity is defined using very strict criterion. However, for practical purposes we can assume the series to be stationary if it has constant statistical properties over time, ie. the following:
  - constant mean
  - constant variance
  - an autocovariance that does not depend on time.

<https://colab.research.google.com/drive/1YFdcfTG2JMKIntkOw0G6ZMkMKtRFVcEF?usp=sharing>  
<https://www.linkedin.com/in/rocky-jagtiani-3b390649/>



### Day 5: 03-12-2021(Friday)

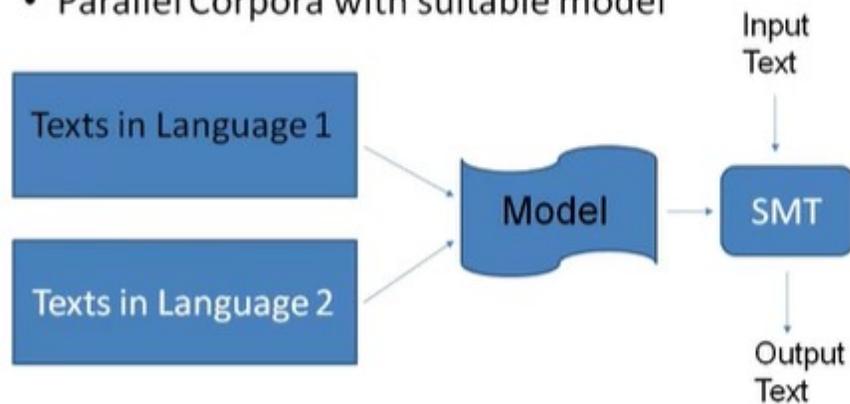
<b>Topic351 :</b>	Making Sense from Textual Data
<p><b>Dr Vivek Kumar Singh</b> ,Professor &amp; Head, Department of Computer Science,Banaras Hindu University, Varanasi - 221005, U.P. (India)</p>	
<p>Dr Vivek Singh is Professor and Head of Computer Science department at Banaras Hindu University, Varanasi. He has about 18 years of experience in teaching and research.</p>	
<p>His primary research interests are in Information Systems, Text Analytics and Scientometrics. He has published about 105 research papers (including more than 40 in top SCIE indexed journals). He has supervised over 10 Doctoral thesis and more than 50 Masters thesis. He has obtained research grants from several national and international funding agencies and have worked on 08 extramural research projects. He is Editor of Journal of Scientometric Research (which is indexed in Scopus).</p>	
<p>He has held several administrative responsibilities, including the Head of the department, Director of Computer Centre, Nodal Officer of UGC SWAYAM and Member of MHRD National Committee on E-Governance. He has also been member of Drafting Committee of new Science, Technology and Innovation Policy 2020 (STIP) of India. He is member of academic bodies of different Universities and an expert member in several committees of DST and DBT. He is a Senior Member of IEEE &amp; ACM &amp; Life Member of ISSI.</p>	

### Major Points Discussed:

- Many network analysis tasks in social sciences rely on pre-existing data sources that were created with explicit relations or interactions between entities under consideration. Examples include email logs, friends and followers networks on social media, communication networks, etc.
- In these data, it is relatively easy to identify who is connected to whom and how they are connected.
- However, most of the data that we encounter on a daily basis are unstructured free-text data, e.g., forums, online marketplaces, etc. It is considerably more difficult to extract network data from unstructured text.
- an end-to-end system for analyzing unstructured text data and transforming the data into structured graphs that are directly applicable to a downstream application.
- Specifically, at social media data and attempt to predict the most indicative words from users' posts.
- The resulting keywords can be used to construct a context+content network for downstream processing such as graph-based analysis and learning. With that goal in mind, we apply our methods to the application of cross-domain entity resolution.

## Example: Machine Translation

- Statistical Machine Translation
- Parallel Corpora with suitable model



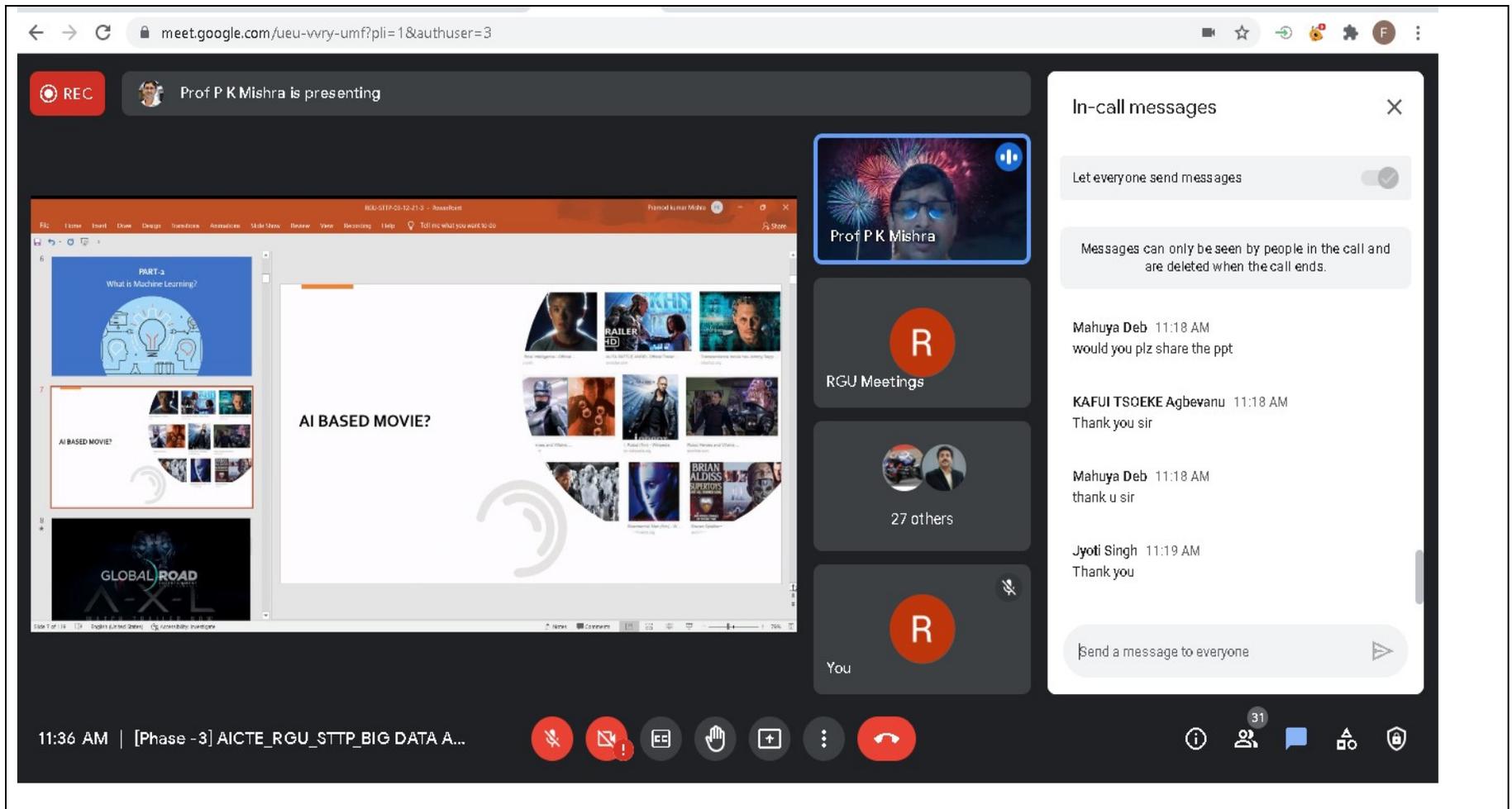
December 3, 2021

30



Vivek Kumar Singh

<b>Topic352 :</b>	Fundamentals of Deep Learning Algorithms and Myths on Machine Learning vs Data Science
<p><b>Prof P K Mishra</b>, Professor&amp;Department of Computer Science, Institute of Science Banaras Hindu University</p>	
<p><b>DrMishra</b> is Professor in Computer Science department at Banaras Hindu University, Varanasi. He has more than 20 years of experience in teaching and research.</p> <p>His primary research interests are in Information Systems and Text Analytics. He has published about 105 research papers (including more than 40 in top SCIE indexed journals). He has supervised over 10 Doctoral thesis and more than 50 Master’s thesis. He has obtained research grants from several national and international funding agencies and have worked on 08 extramural research projects. He is Editor of several Scopus indexed Journal. He has held several administrative responsibilities, including the Head of the department, Director of Computer Centre, Nodal Officer of UGC SWAYAM and Member of MHRD National Committee on E-Governance. He has also been member of Drafting Committee of new Science, Technology and Innovation Policy 2020 (STIP) of India. He is member of academic bodies of different Universities and an expert member in several research bodies.</p>	
<p><b>Major Points Discussed:</b></p> <ul style="list-style-type: none"> <li>• Introduces combined deep learning and geospatial techniques for earthquake risk assessment.</li> <li>• Implemented in NE India and evaluated the hazard, vulnerability and risk.</li> <li>• Accuracy a = obtained was of 0.94, precision of 0.98, recall of 0.85, and F1 score of 0.91.</li> <li>• 21,412.94, 480.98 and 34,586.10 km<sup>2</sup> areas resulted as very high hazard, vulnerability and risk.</li> <li>• Suitability, applicability and limitations of the combined approach were outlines.</li> <li>• Earthquake prediction is currently the most crucial task required for the probability, hazard, risk mapping, and mitigation purposes.</li> <li>• Earthquake prediction attracts the researchers' attention from both academia and industries.</li> <li>• Traditionally, the risk assessment approaches have used various traditional and machine learning models.</li> <li>• However, deep learning techniques have been rarely tested for earthquake probability mapping.</li> <li>• Therefore, this study develops a convolutional neural network (CNN) model for earthquake probability assessment in NE India.</li> </ul>	



<b>Topic353 :</b>	Introduction to Big Data Analytics and Role of AI/ML in Big data.
<b>Mr. Nasim Alam</b> , Senior Deep Learning Engineer (Speech/NLP) ,Company: DataToBiz Pvt Ltd ,Mohali Punjab	
Total Experience: 3+ Years of Experience in the field of AI and Deep Learning.	

Currently working on an AI based product GetMee for an Australian startup.

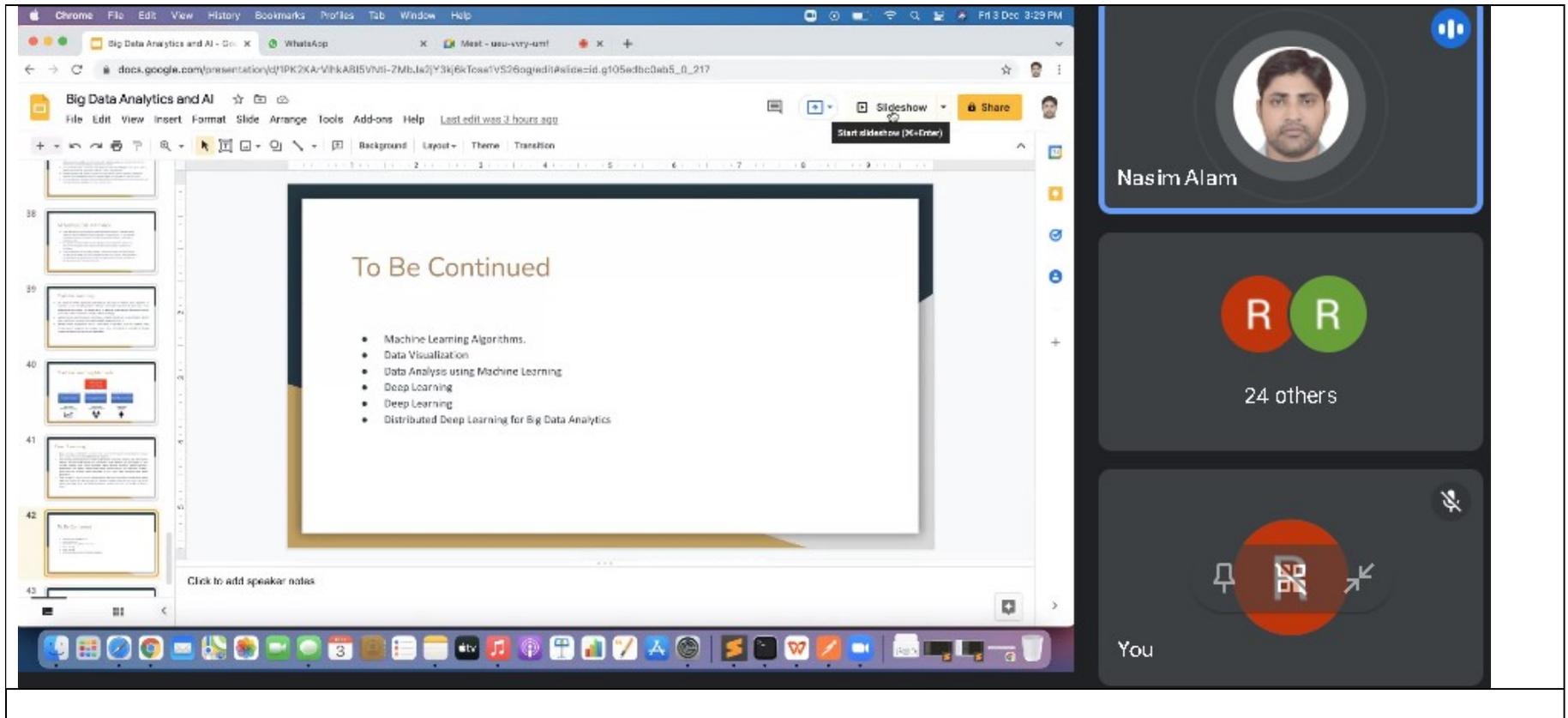
GetMee is an AI based communication and Personality Development coach (Android and iOS APP). Previously Worked with Gurgaon based startup named ODIO a product for Call Center Analytics of agents and customers.

Have done some freelancing in the field of Computer vision and made some state of the art applications like Indian Number plate Recognition(INPR), Automated Vehicle Detection and Counting(AVC) on Indian toll.

Done M Tech in Computer Engineering from Jamia Millia Islamia (a central university) with 9.07 percentile, BE in Computer Engineering from Jamia Millia Islamia (a central university) with 75%. Done 10+2 and 10th from Bihar School Examination Board Patna with First Division.

**Major Points Discussed:**

- Tokenization is a key (and mandatory) aspect of working with text data
- discussed the various nuances of tokenization, including how to handle Out-of-Vocabulary words (OOV)
- A Quick Rundown of Tokenization
- The True Reasons behind Tokenization
- Which Tokenization (Word, Character, or Subword) Should we Use?
- Implementing Tokenization– Byte Pair Encoding in Python



**Day 6: 04-12-2021 (Saturday)**

<b>Topic 261 :</b>	Data Science Vs Fake News
<b>Dr. Lajish V. L.,</b> Assistant Professor & Head , Department of Computer Science, University of Calicut	
<p>Since 17<sup>th</sup> January 2011, Dr.Lajish V.L has been associated with Department of Computer Science,University of Calicut, Kerala. He has worked as Scientist R&amp;D in the TCS Innovation Labs Mumbai, TataConsultancy Services Ltd, during May 2007 – Jan 2011. His prime areas of research interests include Computational Intelligence, Data Analytics, IndianLanguage Speech/Image/Script Technology Solutions for masses, Digital Image Forensics and PatternRecognition Algorithms.</p>	

After his masters in Computer Science from Vellore Institute of Technology, Lajish obtained his Ph.D in Computer Science from University of Calicut, Kerala in March 2007. Dr. Lajish has One US Patent, Two Indian patents, 2 books edited, 2 book chapters and more than 90 research publications in peer-reviewed International Journals and National/International Conferences to his credit. He has successfully guided 4 doctoral students and 14 MPhil scholars in Computer Science. Dr Lajish served as Chairman, PG Board of Studies in Computer Science & Applications, Member of Academic Council and Faculty of Science, Chief Co-ordinator Centre for Computer Science and Information Technology, Co-ordinator Placemat Advisory Council at University of Calicut. He is serving as reviewer for various international journals and served as Technical Programme Committee member/reviewer/chair for several reputed International/National Conferences. He is a recipient of prestigious Tata Innovista Leading Edge Award in 2009 by Tata Quality Management Services to stimulate and support Innovations across Tata Group of Companies across the globe, Dr. APJ Abdul Kalam Life Time Achievement National Award in 2017 for the outstanding excellence and remarkable achievements in the field of Teaching and learning by IRDP Group of Journals, Chennai, India. He was a member of the project team that instituted various e-Governance programs at University of Calicut and to receive the Kerala State e-Governance Award 2011-2013, under the category of e-Governance leader from the Government of Kerala. He also received Senior Research Fellowship (SRF) from Kerala State Council for Science Technology and Environment, Govt. of Kerala and National Scholarship for talented children from rural areas by the Department of Education, Kerala State. He is associated with various professional bodies including as the member of Association of Computing Machinery (ACM) and the Senior Life Member of International Association of Computer Science and Information Technology (ACSIT)

**Major Points Discussed:**

- Cloud computing, internet of things (IoT), artificial intelligence, and big data are four very different technologies that are already discussed separately.
- The use of the four technologies is required to be more and more necessary in the present day in order to make them important components in today's world technology.
- He centers their attention on the integration of cloud, IoT, big data, and artificial intelligence.
- Several kinds of research techniques have surveyed artificial intelligence, cloud, IoT, and big data separately and, more precisely, their main properties, characteristics, underlying technologies, and open issues.
- However, to the greatest of the knowledge, these works require a detailed analysis of the new paradigm that combines the four technologies, which suggests completely new challenges and research issues. To bridge this gap, this he presented a survey on the integration of cloud, IoT, artificial intelligence, and big data.

**Topic 262 :** NEP 2020- A flexible approach in Education

<p><b>Dr. Nisanth P.M</b> ,Assistant Professor ,Department of Education ,Rajiv Gandhi University (A central university) ,Rono-Hills, Doimukh-791112, Arunachal pradesh</p>	
<p>The National Education Policy 2020 (NEP 2020), which was approved by the Union Cabinet of India on 29 July 2020, outlines the vision of India's new education system. The new policy replaces the previous National Policy on Education, 1986. The policy is a comprehensive framework for elementary education to higher education as well as vocational training in both rural and urban India. The policy aims to transform India's education system by 2040.</p>	
<p><b>Major Points Discussed:</b></p> <ul style="list-style-type: none"> <li>• The National Education Policy 2020 (NEP 2020), launched on 29 July 2020, outlines the vision of India’s new education system. NEP 2020 focuses on five pillars: Affordability, Accessibility, Quality, Equity, and Accountability – to ensure continual learning. It has been crafted consistent with the needs of the citizens as a demand for knowledge in society and economy called for a need to acquire new skills on a regular basis. Thus, providing quality education and creating lifelong learning opportunities for all, leading to full and productive employment and decent work as enlisted in United Nations Sustainable Development Goals 2030, forms the thrust of NEP 2020. The new policy replaces the previous National Policy on Education, 1986 and forms a comprehensive framework to transform both elementary and higher education in India by 2040.</li> <li>• The NEP 2020 calls for key reforms in both school and higher education that prepare the next generation to thrive and compete in the new digital age. Thus, there is much emphasis upon multidisciplinary, digital literacy, written communication, problem-solving, logical reasoning, and vocational exposure in the document.</li> </ul>	



DR.NISANTH PM is presenting

## National Education Policy 2020

### Flexible Approaches in Education (HE)

**MINISTRY OF HUMAN RESOURCES IS NOW MINISTRY OF EDUCATION**

FOR SCHOOLS	FOR COLLEGES
<p><b>From 10+2 to 5+3+3+4:</b> Current 10+2 structure in which policy covered schooling from Class 1 to 10 (age 6-16) and then Class 11-12 (age 16-18) gives way to 5 years of foundational education, 3 of preparatory, 3 of middle &amp; 4 years of secondary schooling</p> <p><b>Multi-Stream:</b> Flexibility to choose subjects across streams; all subjects to be offered at two levels of proficiency</p> <p><b>Diluted Board:</b> Board exams to test only core competencies; could become modular (object and subjective) and will be offered twice a year</p> <p><b>Multilingual:</b> 3-language policy to continue with preference for local language medium of instruction till class 8</p> <p><b>Bag-Less Days:</b> School students to have 10 bag-less days in a year during which they are exposed to a vocation of choice (i.e. informal internship)</p>	<p><b>SAT-Like College Test:</b> National Testing Agency to conduct common college entrance exam twice a year</p> <p><b>4-Year Bachelor:</b> 4-year multi-disciplinary bachelor's programme to be preferred; mid-term dropouts to be given credit with option to complete degree after a break</p> <p><b>No Affiliation:</b> Over next 15 years colleges will be given graded autonomy to give degrees, affiliation with universities to end, so would deemed university status</p> <p><b>Fee Cap:</b> Proposal to cap fee charged by private institutions of higher learning</p> <p><b>Going Global:</b> Top-rated global universities to be facilitated to come to India, top Indian institutions to be encouraged to go global</p>



**R**

38 others

**R**

You

### In-call messages

Let everyone send messages

Messages can only be seen by people in the call and are deleted when the call ends.

Milind Patil 11:44 AM  
It is very difficult?

Jyoti Singh 11:45 AM  
Sure sir

Mahuya Deb 11:46 AM  
yes that would be a great help

Send a message to everyone

The screenshot displays a Zoom meeting interface. On the left, a slide titled "HIGHER EDUCATION" outlines the regulatory structure. It shows the Ministry of Human Resource Education (MHRD) and the University Grants Commission (UGC) both reporting to the Ministry of Education (MoE). The MoE oversees the Higher Education Council of India (HECI), which in turn regulates the National Higher Education Regulatory Council (NHERC), Higher Education Grants Council (HEGC), National Accreditation Council (NAC), and General Education Council (GEC). Other entities like NETF, MERU, and NRF are also listed. A note states that all universities (Government, Deemed, Open, etc.) will have the same grading pattern and regulation. The top right shows a video feed of Dr. Nisanth PM. The bottom right features a chat window with messages from Jyoti Singh, Mahuya Deb, and KAFUI TSOEKE AGBEVANU, along with a "Send a message to everyone" button.

**Session details with email & Phone number**

Days	10:00 AM -11:30 AM	11:30 AM -1:00 PM	1:00 PM - 2:00 PM	2:00 PM -3:30 PM
Day 1: 08-11-2021 (Monday)	<p>Topic : Application Of Big Data Analytics , From Smart Grid To Financial Technology</p> <p>Dr. Santosh Biswas Associate Professor, Department of Computer Science &amp; Engineering Indian Institute of Technology Guwahati Email : santosh_biswas@iitg.ernet.in, santoshbiswas402@gmail.com Phone : 99575 61026</p>	<p>Topic : { Introduction to big data : Perspectives and algorithms }</p> <p>Mr. Aswini Kumar Patra, Dept of CSE Assistant Professor , NERIST, Arunachal Pradesh</p> <p>Email : aswinipatra@gmail.com Phone:+91 97740 13655</p>	Lunch Break	<p>Topic : { Real world signals , Big data and deep learning structures}</p> <p>Prof. Kandarpa Kumar Sarma Professor, Department of Electronics and Communication Engineering Gauhati University</p> <p>Email : kandarpaks@gauhati.ac.in Phone: 9401454994</p>
Day 2: 09-11-2021 (Tuesday)	<p>Topic: Introduction to Hash Tables</p> <p>Dr. Ashwin Ganesan, AssociateProfessor, International School of Engineering (INSOFE) Mumbai Email : ashwin.ganesan@gmail.com Phone:+91-98694 55961, +91-96368 20995</p>	<p>Topic : HARD &amp; Soft Support Vector Machines with Kernel Methods and Their Applications</p> <p>Dr. Vibhor Kant, Assistant Professor, RGSC, BHU Email : vibhor.kant@bhu.ac.in</p> <p>Phone:+91 98999 34190</p>		<p>Topic : { Green Computing Software as-a-Service}</p> <p>Dr. Sumit Kalra ,Assistant Professor ,Dept. of Computer Science and Engineering IIT Jodhpur RAJ 342037 Email : sumitk@iitj.ac.in Phone: 7976777787</p>
Day 3: 10-11-2021(Wednesday)	<p>Topic : { Fundamentals of machine learning and Deep Learning algorithms }</p>	<p>Topic : Supervised learning : Decision trees and Adaboost</p> <p>Dr.P.Thiyagarajan,Assistant Professor,</p>		<p>Topic : Supervised learning : Decision trees and Adaboost</p> <p>Dr.P.Thiyagarajan,Assistant Professor, Department of Computer Science, Central University of Tamil Nadu</p>

	Dr. Rakhi Garg. Associate Professor,. Computer Science, Mahila Mahavidyalaya, Banaras Hindu University, Varanasi Email : rgarg@bhu.ac.in Phone:+91 83188 23846	Department of Computer Science, Central University of Tamil Nadu Email : thiyagu@cutn.ac.in Phone:+91 98412 34510		Email : thiyagu@cutn.ac.in Phone:+91 98412 34510
<b>Days</b>	<b>10:00 AM -11:30 AM</b>	<b>11:30 AM -1:00 PM</b>		<b>2:00 PM -3:30 PM</b>
Day 4: 11-11-2021(Thursday)	<b>Topic:</b> Advances in Fuzzy Clustering Algorithms for Medical Image Segmentation  Prof. Jamuna Kanta Sing,CSE Dept., Jadavpur University Kolkata 700032 Email : jk_koustav@yahoo.com jksing.cse@jadavpuruniversity.in Phone:9874196889	Topic : Data Science in Road Traffic Accident Management Dr. Ann Baby ,Assistant Professor ,Rajagiri College of Social SciencesKalamassery Cochin Email : ann@rajagiri.edu  Phone:09895012317		Topic : codesmells Detection Using Machine Learning  Dr Manjari Gupta , Associate Professor ,Department of Computer Science, DST-CIMS, Institute of Science, Banaras Hindu University Email : manjari@bhu.ac.in, manjari_gupta@rediffmail.com Phone:+91 94504 19974
Day 5: 12-11-2021 (Friday)	Topic : Fundamental of Machine Learning and Deep Learning Algorithms  Prof P K Mishra, Professor&,Department of Computer Science, Institute of Science Banaras Hindu University Email : mishra@bhu.ac.in  Phone: +91 94512 27115	Topic : { Application of Data science towards Earthquake Risk Assessment}  Dr. Ranjit Das, Assistant Professor Department of Computing & Systems Engineering Universidad Catolica del Norte, Chile Email : ranjit.das@ucn.cl Phone:+91 97079 59606		Topic : { Making Machine understand word and sub word boundaries}  Dr. Ashish Anand ,Associate Prof , IIT Guwahati Email : anand.ashish@iitg.ac.in Phone:96780 85621

<p>Day 6: 13-11-2021 (Saturday)</p>	<p>Topic:Artificial Intelligence based big data analytics using IoT in Cloud Environment</p> <p>Dr. Mansaf Alam, AssociateProfessor, Department of Computer Science,Jamia Millia Islamia,New Delhi-110025. Email : malam2@jmi.ac.in</p> <p>Phone:9810650497</p>	<p>Topic : NEP 2020: Major Reforms</p> <p>Dr. Nisanth P.M , Assistant Professor ,Department of Education Rajiv Gandhi University (A central university) Rono-Hills, Doimukh-791112, Arunachal pradesh Email : nisanth.m@rgu.ac.in Phone:+91 95672 79956</p>		<p>Examination</p>

### **3.1. Examination:**

An examination was conducted via online ([https://docs.google.com/forms/d/e/1FAIpQLSfWukkQFY91xU0p3O\\_ecqhlG1uwlZjam2PNf8tv\\_as55BfrHw/closedform](https://docs.google.com/forms/d/e/1FAIpQLSfWukkQFY91xU0p3O_ecqhlG1uwlZjam2PNf8tv_as55BfrHw/closedform) ) among the participants. It was a multiple choice question based examination. It consisted of twenty questions and each question consisted of four options. Duration of the exam was 1 hour.

## **4. Major Takeaways**

### **4.1. Academic Context**

It was increasingly feasible to create and sustain virtual networks using resources such as videoconferencing and web 2.0 communications, which allowed substantial value in bringing people together to be immersed in a common experience. Personal interactions also allow for informal communication outside the defined schedule that can be valuable to the network-building process. Experience from the program From 08 November 2021 to 13 November 2021 suggests that one week long STTP would be optimal, given the amount of new material that participants would be expected to absorb and the value of cumulative learning-by-doing.

A key element for ensuring success and enhancing sustainability in this STTP is the participation of teams from institutions, including a range of junior to senior members on each team. The adopted STTP model has shown added success and commitment by participants if their home institute provides at least modest resources to help implement what participants learns.

### **4.2. Research Context**

As the design of the planning committee meeting of Dept of CSE, RGU suggested, the STTP built around extensive, direct participation. Participants have the opportunity to be both “students” and “teachers,” to practice the methods they are learning, and to develop “teachable tidbits” and other materials to help them implement their research or modules at their innovation practices.

An important feature of this STTP’s hands-on approach is the commitment to assist participants in implementing what they have learned. In addition to implementing new ideas or courses, they acquired experience and resources to plan and carry out effective assessments of whether the learning goals of their new activities are being met. Through this STTP participant academics from various universities may discussed didactical approach of research in data science and get its benefits for their research.

### **4.3. Policy Making and Practice Context**

At this STTP, we will deliberate on some of the critical aspects of modern trends of advanced research tools in higher education. This STTP introduced the data science research product family and provides a high-level overview of the major capabilities. This program

also highlighted some examples that demonstrated modeling for big data science, modeling paradigms with a special reference to Machine learning and Deep learning.

The resource person through video tutorials explained how we can use deep learning modules and other techniques for data exploration, data cleaning, and data processing to invert the classroom and create a more active learning environment. It is also covered some best practices on incorporating technical computing, modeling, and simulation with Python in research based academic curricula.

#### **4.4. Summary**

The 6 Days Short Term Training Program (ONLINE) series on big data analytics using soft computing tools (STTP – PHASE III: 29 Nov 2021 to 05 Dec 2021) organized by Department of CSE, Rajiv Gandhi University in association with Department of Electronics and Communications, RGU and Department of Mathematics, RGU was concluded today. Total 162 participants from various parts of the country attended the program connecting through online mode from their place.

Resource persons were from different higher educational institutions and industries and they delivered their expertise to the participant. Every session had an interactive part among students and resource person. Resource person's presentations and reports were of high standard and delivered what they were intended for.

Prof. Saket Kushwaha, Hon'ble Vice-Chancellor congratulated the participants who completed the program and told that learning is a continuous process that promote teachers' teaching skills, master new knowledge, develop new proficiency, which in turn, help improve students' learning. He expressed that, the outbreak of COVID-19 pandemic in India has caused extreme distress to the society and is a setback to academic activity. In this moment of crisis, RGU has endeavored to leverage digital access for continuation of the academic activities by online mechanisms, he said. He appreciated the Department of CSE for organizing the program in an appropriate time. Prof. A. Mitra, Pro-Vice Chancellor stressed the importance of online platforms for learning during this pandemic.

All the participants expressed that they had wonderful learning experience during the STTP and conveyed their gratitude to the STTP secretary Prof. Utpal Bhattacharjee and coordinator Dr. Firos A. They said that these 6 days experience would take them a long way in their academic prospects.

The STTP organized by RGU was meant for faculty and researchers. The STTP is specially designed to meet the modern education requirements of teachers, researchers, and trainers in HRD, training colleges and industrial organizations. The 6 days program from 29 Nov 2021 to 05 Dec 2021, which was the third phase of the series, not only covered basic idea about the big

data analytics, which can play great role in almost all research areas but also focused on qualitative and quantitative research methods and innovative pedagogical techniques.

Participants were given the learning resources that will support their classroom instruction as well as in their research in future. The added advantage for this offering was the scope to learn through diversity in the participant's background. They were from different fields of Engineering, Science, Management, etc. and came with a rich array of experience. The participants from all over the country worked together in groups, staying at home and connecting through online platform.

**Annexure 1 (List of participants):**

**Annexure 2 (Examination Questions):**

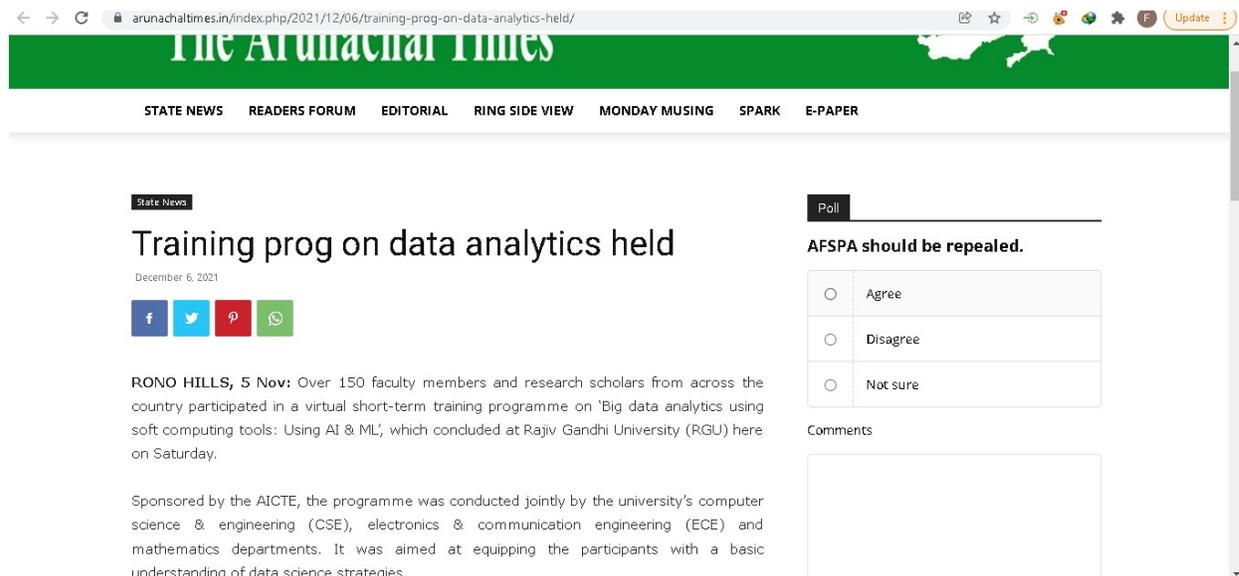
**Annexure 3 (Examination Marks Details):**

**Annexure 4 Sample Participation certificates:**

**Annexure 5 (Feedback of Participants):**

**Annexure 6 (Video URLs of Training Programs):** <https://www.youtube.com/playlist?list=PLWrGpNQV0ly7DrH472YOM7ytCM-MUdc0W>

**Annexure 7 (Press release):** Report on Arunachal Times , Dated December 06, 2021, URL : <https://arunachaltimes.in/index.php/2021/12/06/training-prog-on-data-analytics-held/>



**Annexure 8 AQIS APPLICATION for STTP details**

**Annexure 9 Brochure**

**Annexure 10: List of Participates Successfully Completed the course**

	Salutation	Name	Institution/University/Organization
1	Mr	M SHANMUKA SRINIVAS	Indian institute of technology Tirupati
2	Dr.	HEMACHANDRAN K	Woxsen University
3	Dr.	Rajat Deb	Tripura University
4	Prof.	Suchitra Kumari	St. Xavier's College (Autonomous), Kolkata
5	Dr.	Arijit Ghosh	St. Xavier's College(Autonomous), Kolkata
6	Dr.	Kiran Sree Pokkuluri	Shri Vishnu Engineering College for Women
7	Ms	Kalyani Chapa	Chaitanya Engineering College
8	Dr.	Duvvada Mallikarjuna Rao	GITAM
9	Dr.	Akash Ranjan	Department of Education,Rajiv Gandhi University(A Central University),Rono Hills,Doimukh, Arunachal Pradesh,Pin-791112
10	Mr	LAKHIKUMAR KALITA	Rajiv Gandhi University
11	Mr	Ganesh M Gaikwad	SIT Lonavala
12	Mrs	Kamuru sameena	SRI venkateshwara Institute of technology
13	Dr.	Muralidhar Kurni	GITAM (Deemed to be University), Hyderabad
14	Mrs	Swapna T	Navodaya institute of technology, Raichur,
15	Prof.	DR. BRIJESH S	SRI BALAJI UNIVERSITY, PUNE
16	Ms	Sudeshna Bordoloi	Assam University
17	Ms	malabika sarma	Rajiv Gandhi university
18	Ms	Bharti mishra	Rajiv gandhi university, rono hills,doimukh
19	Mr	JYOTIRANJAN ROUT	Balasore college of engineering and technology
20	Ms	G KOKILA	Annamalai University
21	Mr	S.SANTHAKUMAR	ANNAMALAI UNIVERSITY
22	Ms	PINKI DOLOI	NORTH EASTERN REGIONAL INSTITUTE OF SCIENCE & TECHNOLOGY
23	Mr	Kafui Tsoeke Agbevanu	Ho Technical University
24	Mr	Jamru Kara	Rajiv Gandhi University, Rono Hills, Doimukh, Papum Pare, Arunachal Pradesh
25	Dr.	Anand Kumar	J. R. Divyanga University, Chitrakoot
26	Dr.	VISHAL SHRIVASTAVA	ARYA COLLEGE OF ENGINEERING AND IT, JAIPUR
27	Dr.	M.RAMESH	SAVEETHA SCHOOL OF ENGINEERING
28	Ms	Arshi Jamal	Government First Grade College, Raichur-Karnataka
29	Mr	MOLOY DHAR	GURU NANAK INSTITUTE OF TECHNOLOGY
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31	Prof.	Vishal Prakash Gaikwad	SVPM's ITE Malegaon Bk
32	Mr	Bikram Thapa	Rajiv Gandhi University
33	Dr.	JOSHILA GRACE L.K	SATHYABAMA INSTITUTE OF SCIENCE AND TECHNOLOGY

34	Dr.	A. P. Nirmala	New Horizon College of Engineering
35	Dr.	P. Asha	Sathyabama Institute of Science and Technology
36	Mr	MILIND ANNASAHEB PATIL	Dr. GHALI COLLEGE, GADHINGLAJ, KOLHAPUR, MAHARASHTRA
37	Mr	LAPSANG LAMA	Rajiv Gandhi University
38	Mr	Y R Janardhan Reddy	G Pulla Reddy Engineering College(A),Kurnool
39	Mr	SUMIT KUMAR	Rajiv Gandhi University
40	Mr	Tage Bambi	Rajiv Gandhi University
41	Mr	Gitartha Pal	Xpro India Limited
42	Priyanka Yadav	Priyanka Yadav	Rajiv Gandhi University
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44	Ms	VIVEKITHA V	Dr.NGP institute of technology
45	Mr	BHABESH KUMAR DAS	RAJIV GANDHI UNIVERSITY, ARUNACHAL PRADESH
46	Mr	Lalit Mohan Satapathy	Department of EEE, SOA Demmed to be University
47	Prof.	Prof. Neha Mittal	G H Rasoni Institute of Engineering and Technology
48	Mrs	Jyoti Singh	Seth Anandram Jaipuria school
49	Dr.	Dr. Ursa Sayeed	Gh. Rasoni Institute of Engineering & Technological
50	Prof.	Nikhil Khandar	G H Rasoni Institute of Engineering and Technology, Nagpur
51	Prof.	Sandhya Dahake	GHRIET, Nagpur
52	Ms	Mahak Puri	Bhilai Institute of Technology, Durg
53	Dr.	Dr. MAHUYA DEB	St.Joseph's College (Autonomous ) Bangalore, karnataka
54	Mr	M Senthilkumar	Kumaraguru College of Technology Coimbatore
55	Dr.	KUNAL SINHA	CENTRAL UNIVERSITY OF GUJARAT
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89	Mrs	Seema Khanum	ICERT , Meity, Delhi
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