

### KEY FEATURES

- Lectures from Senior Professors of IIT/ NIT
- Lectures from Foreign Universities Professors and Domain Experts
- Lectures from Industries – Infosys, Lithium Power etc.
- Practical Hands-on on Python
- Industry Specific Case Studies

### REGISTRATION FORM

#### Online Short Term Course on Data Analytics and Its Application in Industries

(14-26 December 2020)

Name \_\_\_\_\_

Designation \_\_\_\_\_

Institute \_\_\_\_\_

Gender: Male / Female

Postal Address \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Email ID \_\_\_\_\_

Telephone / Mobile No. \_\_\_\_\_

Undertaking:

I shall abide by rules and regulations and shall attend course. Failing which certificate may not be issued.

Signature of Candidate  
(With date)

### COORDINATOR

Prof. Sanjay Kumar Singh  
Professor

Department of Computer Science and Engineering  
Indian Institute of Technology (BHU), Varanasi

### CO-COORDINATOR

Dr. Rajeev Kumar Singh  
Associate Professor

Department of Electrical Engineering  
Indian Institute of Technology (BHU), Varanasi

Dr. Prasenjit Chanak  
Assistant Professor

Department of Computer Science and Engineering  
Indian Institute of Technology (BHU), Varanasi

### FOUNDER OF THE IIT(BHU)



Pandit Madan Mohan Malaviya

### ADDRESS FOR CORRESPONDANCE

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### AICTE Sponsored QIP Online Short Term Course

On

### Data Analytics and Its Application in Industries



### DURATION

14-26 December 2020



### JOINTLY ORGANIZED BY

Department of Computer Science & Engg  
and  
Department of Electrical Engineering

भारतीय प्रौद्योगिकी संस्थान  
INDIAN INSTITUTE OF TECHNOLOGY  
BANARAS HINDU UNIVERSITY

## INTRODUCTION:

Recently, data analytics has become very popular and frequently used in any business. Businesses today around the world have some portion of their operations being automated, which concurrently has meant that a lot of data about these processes is being collected (from sensors or internal company data etc). A combination of AI, big data analytics, and data science techniques seems to be a growing trend in many industry sectors, with predictive analytics being one of the most well-known. Vast numbers of software platforms are available for data extraction, scrubbing, analysis, and visualization. Some of these platforms are specialized for carrying out one of the above-listed aspects of data analytics, while others offer a generalist tool to carry out almost all tasks ranging from data scrubbing to visualization. This course gives an overview of different data analytic mechanisms and also provides a brief knowledge of various data analytics tools. After the competition of this course, participants can apply the data analytics model in real-life problem-solving.

## COURSE CONTENTS (Tentative):

- Data Analytics Scope & Applications
- Basic and Data Analysis Techniques
- Data Science Introduction
- Predictive v/s Descriptive Data Analysis
- Descriptive Statistics
- Introduction to Statistical Learning
- Probabilistic Theory
- Regression & Classification Problems
- Linear and Logistic Regression
- Decision Trees , Support Vector Machines
- K-NN Algorithm, Principal Component Analysis
- Cluster Analysis
- Introduction to R Programming
- Introduction to Python Programming with Hands-on
- Analyzing the categorical Data
- Analyzing Data Streams
- Medical Data Analytics
- Agriculture Data Analytics
- IoT Data Analytics
- Timeseries Data Analytics
- Business Optimization using Data Analytics
- Feature Engineering and Visualization
- Secure Exchange of Medical Data for H/C Industry
- Industry Specific Case Studies

## EXPERTS:

Subject experts will be drawn from premier institution like IITs, NITs, IISc and from industry like Infosys, Lithium power.

## PROGRAM DURATION:

**2 Weeks (14-26 December 2020)**

STC will be conducted in ONLINE MODE. Link will be shared to registered participants.

## WHO CAN PARTICIPATE?

This program can be attended by all UG/PG/PhD students, faculties and researchers from any branch of Engineering/ Science who are interested to work in the field of Data Analytics.

## REGISTRATION:

### Registration link :

<https://forms.gle/VW8AghkSZy84GfpL7>

Intending participants are requested to register their names by filling the online registration form. In case of any difficulty you can contact us at [sks.cse@iitbhu.ac.in](mailto:sks.cse@iitbhu.ac.in)

**Last Date of Registration: 12 December 2020**

**Registration Fees:** No registration fee for this course

**Course Mode:**



## ABOUT THE INSTITUTE:

The Indian Institute of Technology (Banaras Hindu University) owes its existence to Mahamana Pandit Madan Mohan Malviya, Bharat Ratna-the founder of the first residential university of modern India, the Banaras Hindu University. The three of the erstwhile engineering colleges of BHU, namely BENCO, MINMET and TECHNO, were merged to form the Institute of Technology (IT-BHU) in 1968 to provide an integrated educational base. The IT-BHU has been admitting students through the JEE conducted by the IIT's since 1972, and has been consistently ranked amongst the top few engineering institutions of the country. IT-BHU became IIT (BHU) in June 29, 2012 by an Act of Parliament. The Institute has maintained high academic standard since its inception. It has turned out luminary engineers and administrators who served the nation with great distinction.

## ABOUT THE COMPUTER SCIENCE AND ENGINEERING DEPARTMENT:

The Department of Computer Engineering was established in July 1983. The department offers a 4 year course, B.Tech. in Computer Sc. & Engineering, 5 year Integrated Dual Degree (B.Tech. and M.Tech.) in Computer Sc. & Engineering from 2005-2006, and Ph.D. degree in various specializations of Computer Sc. and Engineering. The faculty members of the department have international experience and training. The departmental research is focused in the areas of Artificial Intelligence, Neuro Computing, Parallel Processing, Software Engineering, Image Processing and Computer Vision, Medical Image Processing, Pattern Recognition, Datamining and Webmining, Biometrics, semantic web, Natural Language Processing (NLP), Machine Learning, and Information Extraction. Besides plan funding, the Department attracts financial inputs through externally funded projects and alumni donations.



## ABOUT THE ELECTRICAL ENGINEERING DEPARTMENT:

Department of Electrical Engineering runs five post graduate (M. Tech.) programmes in Electrical Machines and Drives (started in 1956), Power Systems (started in 1964), Control Systems (started in 1964), Power Electronics (started in 1982) and Interdisciplinary Systems Engineering (started in, 1982) and Ph. D. programme in all disciplines of Electrical Engineering. The department has also a five year Integrated Dual Degree Program (started in 2006) leading to Masters degree with specialization in Power Electronics. The department has been sanctioned Special Assistance Programme (SAP) of UGC since 1988 and COSIST program of UGC from 1995 to 2000. Apart from these, the department has been conducting research projects funded by DST, AICTE, CPRI and other R&D organizations of Govt. of India.