Doctor Harisingh Gour Vishwavidyalaya

(A Central University)

Sagar (M.P.)

Accredited with 'A' grade by NAAC

Announces

Five Days Workshop
On
Data Science
September 2nd -6th , 2019

Under Scheme of

AICTE Training And Learning (ATAL)
Academy Programmes
Organized by:

Department of Computer Science and Applications

School of Mathematical and Physical Sciences

Doctor Harisingh Gour Vishwavidyalaya

(A Central University)

Sagar: 470003(M.P.)

ABOUT VISHWAVIDYALAYA

Dr. Harisingh Gour Vishwavidyalaya(A Central University), Sagar formerly University of Saugor, was established on 18th July 1946 by Dr. Sir Harisingh Gour (Nov. 26, 1870 – Dec. 25, 1949). By his lifetime saving. Doctor Harisingh Gour Vishwavidyalaya, Sagar, a seat of learning established as a University of Madhya Pradesh in 1946 with a campus spread over about 1300 acres. It was upgraded to a Central University on 15th January 2009 and was accredited „A‟ Grade (3.04 score) by NAAC in the third cycle in 2015. The University offers multidisciplinary academic programmes at undergraduate, postgraduate and doctoral levels through its 11 Schools with sound infrastructure for innovative approach of teaching. The University has laboratories equipped with modern and sophisticated instruments to encourage quality research. Most of the Departments have project funds from UGC, DST, ICMR, MPCST and other national agencies.

ABOUT DEPARTMENT

Department of Computer Science and Applications was established in academic year 1996-97 with a program DCA (Diploma in computer Applications) and BCA (Bachelor in Computer Applications). Subsequently Master of Computer Application (MCA) course was introduced in the year 1998. Presently, department offering three courses BCA, MCA and Ph.D. in Computer Science and very soon going to start Post Graduate Diploma in Big Data Analytics (PG-DBDA) programme which is theoretical and practical based course.

HOW TO REACH SAGAR

Sagar well connected by rail and roads. Sagar railway station is mentioned as Saugor (SGO) in railway time table is located in Bina-Katni section of west central railway. There is direct train connectivity for Delhi, Mumbai and Kolkata. Sagar is also connected with excellent road from Bhopal (190 Km), Jabalpur (185 Km), Jhansi (200 Km) and Bina (75 Km). the nearest airport is Bhopal and Jabalpur.

CHIEF PATRON
Prof. Raghavendra. P. Tiwari
Hon'ble Vice Chancellor,
Doctor Harisingh Gour Vishwavidyalaya(DHSGV),
(A Central University),Sagar (M.P.)

PATRON
Prof. Diwakar Shukla, Dean,
School of Mathematical and Physical Science
Doctor Harisingh Gour Vishwavidyalaya

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Sponsored by:
All India Council of Technical Education (AICTE),
New Delhi

COURSE CONTENTS

Fundamental of Data Science**:** Introduction of Data Science, Big Data, and Machine Learning ,Revolution of Data Science, difference between Data Science and Big Data, Data Mining, Data Warehouse, How to define Data Analytics?, Difference between Data Analysis and Data mining techniques. Why the professionals finding career in Data science Industry? Introduction of IOT.

Machine Learning: Overview of Machine learning concepts – Over fitting and train/test splits, Types of Machine learning – Supervised, Unsupervised, Reinforced learning, Introduction to Bayes Theorem, Linear Regression- model assumptions, regularization (lasso, ridge, elastic net), Classification and Regression algorithms- Naïve Bayes, K-Nearest Neighbors, logistic regression, decision trees, and random forest, Classification Errors, Neural Networks-Learning And Generalization, Overview of Deep Learning.

Probability and Statistics for Data Science: Axiom of Probability, Central Measured Tendency, Application of Statistics and Probability in Data Science, Normal Distribution, Binomial Distribution, Poison Distribution, Sampling and its techniques, Measures of relationship between variables : Correlation and Regression ,Hypothesis Testing: t-test, Chi-square, Anova,

Data Processing and Data Manipulation: Introduction to Excel Spreadsheets, Basic functions in Excel, arithmetic as well as various logical functions, Formatting rows and columns ,Using formulas in Excel and their copy and paste using absolute and relative referencing, Data filtering in Excel ,Use of Pivot tables with categorical as well as numerical data, various advanced graphing and charting techniques available in Excel such as: Line, Bar and Pie charts , Pivot charts ,Scatter plots ,Histograms etc.
Introduction to SQL and Data bases, SQL developer installation, Data types and Operators, Create and Drop data base, DDL,DML, DCL TCL, Sorting commands etc

Data Visualization: Information Visualization, Data analytics Life Cycle, Analytic Processes and Tools, Analysis vs. Reporting, Modern Data Analytic Tools, Visualization Techniques, Data collection and binding, Interactive visualization, Visualizing big data – structured vs. unstructured.

Language and Tools for Data Science: Need of tools and language for Data Sciences. Introduction to different languages and tools used in the course. Brief notes on other languages and tools, Introduction & Installation of R, R Basics, Finding Help, Code Editors for R, Command Packages, Manipulating and Processing Data in R, Reading and Getting Data into R, Exporting Data from R, Data Objects-Data Types & Data Structure. Viewing Named Objects, Structure of Data Items, Manipulating and Processing Data in R (Creating, Accessing, Sorting data frames, Extracting, Combining, Merging, reshaping data frames), Control Structures, Functions in R (numeric, character, statistical)

WHO SHOULD ATTEND

Faculty members working and Students studying (final year) in **AICTE APPROVED** institutions/Colleges are eligible for the workshop.

RESOURCE PERSONS

The course content will be delivered from a pool of experts from JNU, Internal Faculties, Experts and other institutions of repute.

SELECTION PROCESS

A limited number of seats (**50**) will be there on first-cum-first-serve basis and selected candidates will be intimated through email only.

*No fees will be charged from participants for workshop.

GENERAL INFORMATION

Accommodation and travelling expenses are to be borne by the participants/ sponsoring agency. Limited accommodation on actual charges may be available at DHSGVV Guest House. A request for this need is to be made in advance. The participant will not be paid any TA/DA. The organizers will provide working lunch.

REGISTRATION

Registration is open to Faculty and Students (MCA/MBA/M.Tech./M.Pharm. /Ph.D.Scholar) from any branch in **AICTE approved** institutions/Colleges. Participants will be admitted on first-come first-served basis.
To confirm participation please send the scanned copy of the filled Registration Form to: **ranjit.jnu@gmail.com** *or* submit in person to coordinator latest by **30th August 2019** positively.

Registration Form
Five Days AICTE Sponsored Workshop on
Data Science
(Septembert 2ⁿᵈ –6ᵗʰ, 2019)

Name...

(In block letters)

Faculty/ Student...

Designation (In case of Faculty)...

Program and Branch(in Case of Student).........................

Organization/Department/Institute is approved by AICTE (YES or NOT).......

Organization...

Department...

Qualification...

Specialization (If any)..

Mailing Address...

....

Mobile..

Email..

Date ....

Signature of Applicant

Signature of HOD/Principal / Authority with seal.

*Only AICTE approved Departments/Institutions /Colleges