A ONE-WEEK FDP
ON
Applications of Machine Learning in Social Science Research
Organised by
Department of Education,
Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.)
From 21st to 25th February, 2023

About The University:

Guru Ghasidas Vishwavidyalaya, the only Central university of the state, is situated in a socially and economically challenged area and is appropriately named after great Satnami Saint Guru Ghasidas, who championed the cause of the downtrodden and waged a relentless struggle against all forms of social evils and injustice prevailing in the society. The University is providing quality higher education and research to socially and economically challenged youths of the region. It is spread over about 655 acres of land. Having more than 8000 students and research scholars on roll, it conducts more than 62 demand-driven courses in 32 departments under 11 Schools of Studies in addition to the National Centers for Endangered Languages, HRDC, and Accelerator-Based Research (NCAR). The university is blessed to be in a region having magnificent social and cultural heritage, especially the tribal traditions and practices, wonderful legacy of the inherent intellect, and a rich bio-diversity.

About the Department

The Department of Education currently offers the Two-Year Programmes viz., B.Ed., B.Ed. Special Education (Hearing Impaired), B.Ed. Special Education (Learning Disabilities) and M.Ed. along with the Direct Ph.D. programmes. Since its inception in 2007, the Department of Education is committed to bring out the best potentials of its students to develop them as empowered and envisioned leaders of Indian Education. The Department possesses a team of able and sensitive teachers, striving to promote among the prospective teachers and the teacher educators– a high standard of knowledge, professional skills, cultural understanding, social responsibility and synergistic progress within a truly multicultural educational environment. It offers state–of–art curricula incorporating the modern thoughts in the field of teacher education. It also provides sensitization regarding the need, value and place of teaching professionals through ample practical experiences. All the educational experiences are designed to develop competence to face the placement market and to get through competitive examinations. A significant number of our students have qualified the competitive examinations like, CTET, State specific TETs, NET and SLET in the foregone sessions, and also join the respected profession of nation building. The department is known for its discipline and student-friendly environment providing excellent technological facilities, quality knowledge resources (a rich library, internet facilities as well as regular seminars, workshops, community programmes and other co-curricular experiences) and potent research experiences.

Concept Note: With the increasing amounts of data being collected on a daily basis, the field of Machine Learning has gained mainstream attention. By shifting away from focusing on inference, Machine Learning is a field at the intersection of statistics and computer science that is focused on maximizing predictive performance by learning patterns from data. That is,

the goal of machine learning is to predict something – and predict it very well, regardless of whether you understand it. However, scholars in the social sciences are beginning to understand the importance of the Machine Learning framework and how it can unlock new knowledge in fields such as sociology, political science, economics, education and psychology, etc. This workshop broadly introduce the basic ideas of the machine learning framework and its conceptual relevance in solving social science research problems. It will also touch upon the basic algorithms used for prediction and classification the big data set. In particular, this programme intends to introduce algorithms such as regularized regressions, classification trees and clustering techniques through basic examples. In addition to that, best efforts will be taken to discuss their advantages and disadvantages in the field of social science research. Although many social scientists do not yet explore how predictive models can help to explain social phenomena, we will here focus on how Machine Learning can play a significant role as a tool for discovery, improving causal inference and generalizing various classical models through cross validation.

In recent years , Machine Learning Techniques (MLT) are being used health care, Data Analysis, Security, Smart Cities, Internet of Things (IOT), Agriculture, Industry Automation, etc. But this powerful technique has not been explored and utilised in a broader way in various domains of social science. There are many domains and areas of social science where ML can be used in a better way as compared to traditional statistical techniques.

Learning Objectives of the Workshop: The proposed workshop enables the participants to;

- To understand the basics underlying Machine Learning.
- To be able to formulate Machine Learning problems (statement, research questions, research hypothesis, design of the study, material and methods required/ instrumentation, etc.) corresponding to different applications.
- To understand a range of machine learning algorithms along with their strengths and weaknesses.
- To be able to apply Machine Learning algorithms to solve problems related to social sciences.

Measurable Learning Outcomes of the Workshop: After completing this workshop, the participants will be able to:

- Develop and design relevant research titles/problems relating to applications of ML.
- Understand the probable Machine Learning algorithms for solving the identified problems.
- Apply Machine Learning techniques to solve the real-world problems in general and social science problems in particular.
- Gain confidence on application of Machine Learning techniques through Hands-on training and practice sessions.

CHIEF PATRON

Prof. Alok Kumar Chakrawal, Hon'ble Vice Chancellor,
GGV, Bilaspur.

PATRON

Prof. Manish Shrivastava, Registrar, GGV, Bilaspur

CONVENER
Prof. C. S. Vazalwar , Head & Dean, Department of Education, GGV, Bilaspur.

COORDINATOR
Dr. Sambit Kumar Padhi, Associate Professor, Department of Education, GGV, Bilaspur
&
Dr. Jyoti Verma, Assistant Professor, Department of Education, GGV, Bilaspur

Target Participants: Faculty Members, Educational Administrators, Research Scholars, Students of Higher Education Institutions who want to learn the concept & Applications of Machine Learning.

Program Venue: Program will be organized through **ONLINE mode (Google meet link)**

Proposed Date & Time of the Workshop:
February 21, 2023 to February 25, 2023 (Tuesday to Saturday)
Timing: 10:00 AM to 11:30 AM & 12:00 to 01:30 PM (Two sessions per day)

Registration Fee:
Faculty members/ Educational Administrators = 200/- (Two hundred rupees only)
Research Scholar   = 150/- (One hundred fifty rupees)
Students of Higher Education Institutions   = 100/-(One hundred rupees only)

Note: Please fill the given google link for registration

https://forms.gle/3TgydL4wQ9f2V8wj9

Certificate: e-certificate will be issued to those participants who will attend the FDP throughout.
Account details for registration fee:
Name of Account: Registrar, Guru Ghasidas Vishwavidyalaya, Bilaspur
Name of Bank: Bank of India, Koni
Account Number:947410110002611
IFSC Code:BKID0009474
For more details contact-
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