

## Koneru Lakshmaiah Education Foundation (Category -1, Deemed to be University estd. u/s. 3 of the UGC Act, 1956)

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## A Report on "Applications of statistics in Machine Learning and Experimentation"

Resource Person: Sri Nagesh Balivada, Engineering Leader, Private Market

place (Advertising D S P) Amazon,

San Francisco Bay Area, U.S.A.

Date

: 18th July 2022(Monday)

Time : 9.30a.m to 10.30 a.m.

Venue : Virtual class room

Introduction: The Academic Staff College of KLEF, in collaboration with the CSE Department, organized a one-day Faculty Development Program (FDP) on the topic of "Applications of Statistics in Machine Learning and Experimentation" on 18th July 2022. The FDP aimed to provide educators, researchers, and practitioners with insights into how statistics plays a crucial role in the fields of machine learning and experimentation.

Objectives of the FDP: The primary objectives of the FDP were as follows:

1. To familiarize participants with the fundamentals of statistics and its relevance in machine learning and experimentation.

2. To explore various statistical techniques used in data analysis, hypothesis testing, and model evaluation in machine learning.

3. To demonstrate real-world applications of statistics in solving complex problems in machine learning and experimentation.

4. To provide a platform for participants to interact with experts and peers, facilitating knowledge exchange and networking.

Program Highlights: The FDP was structured to encompass a variety of sessions, including lectures, hands-on workshops, and interactive discussions. Below is an overview of the program highlights:

Inaugural Session (9:00 AM - 10:00 AM): The FDP commenced with an inaugural session, featuring keynote addresses from distinguished professors and industry experts. They emphasized the importance of statistics in the modern data-driven world and its significance in the context of machine learning.

Technical Sessions: The core of the FDP comprised a series of technical sessions, covering the following topics:

1. Introduction to Statistics in Machine Learning (10:15 AM - 11:30 AM): This session provided participants with a foundational understanding of statistics, its terminology, and its role in machine learning.

2. Statistical Techniques for Data Analysis (11:45 AM - 1:00 PM): Participants learned about various statistical methods used in data preprocessing, exploratory data analysis, and data visualization.

3. Hypothesis Testing and Experimental Design (2:00 PM - 3:15 PM): This session delved into the principles of hypothesis testing and the design of experiments, showcasing their relevance in research and machine learning.

4. Model Evaluation and Statistical Metrics (3:30 PM - 4:45 PM): Participants were introduced to statistical metrics for evaluating machine learning models, such as accuracy, precision, recall, and F1-score.

Hands-on Workshops (2:00 PM - 4:45 PM): Concurrent with the technical sessions, participants had the opportunity to engage in hands-on workshops, where they applied statistical techniques to real-world datasets using popular data analysis and machine learning tools.

Panel Discussion (5:00 PM - 6:00 PM): The FDP concluded with a panel discussion featuring experts from academia and industry. The panelists shared their insights on the current trends and challenges in the application of statistics in machine learning and experimentation.



Feedback and Networking (6:00 PM - 6:30 PM): Participants provided feedback on the FDP, and certificates of participation were distributed. The event concluded with a networking session, allowing attendees to connect with peers and experts.

Conclusion: The one-day Faculty Development Program on "Applications of Statistics in Machine Learning and Experimentation" organized by the Academic Staff College of KLEF in association with the CSE Department proved to be a valuable learning experience for all participants. It equipped educators, researchers, and practitioners with the knowledge and skills needed to effectively apply statistics in their work within the fields of machine learning and experimentation. The FDP's success was a testament to the commitment of KLEF in promoting continuous learning and professional development in the ever-evolving domain of data science and technology.





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