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Title: Introduction to the Special Issue on New Trends in Hyderabad Statistics and Data Science.

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Abstract:

Hyderabad, an emerging hub of technological progress in India has experienced major achievements in the area of statistics and data science, among other fields, in recent years. This exclusive edition hinges on identifying the emerging trends, techniques and implementations within these streams that have been largely cultivated by the researchers, academicians and the industry professionals in Hyderabad. From machine learning algorithms based on a blend of hardware technologies to statistics innovations which are adjusted to the special nature of complex data structures, this issue demonstrates all the variety of the research outputs in this metropolis. Also it acts as a dialogue and collaboration base among experts that promotes the friendly and ease resulting environment of statistics and data science in Hyderabad and worldwide.

Keywords: **Hyderabad, statistics, data science, machine learning, methodology, applications.**

I. INTRODUCTION

The city of Hyderabad, commonly dubbed as the "the city of pearls" as well as "the Silicon Valley of India", has experienced exponential growth in the field of technology and innovation. The city has progressed from the traditional scientific community in the time immemorial to an ecosystem of research institutions, universities, and tech companies. Research at Hyderabad spans across different areas, especially statistics and data science.

In recent years, a combination of big data, high-end computing technologies and sophisticated data analysis tools has transformed statistics and data science to become the basis of many inventions and discoveries. Such merger gave rise to paradigm shifts in almost all of the sectors, like health-care, finance, etc. to transportation and agriculture.

Consequently, this issue focuses on presenting the state-of-the-art scientific research advances in statistics and data science that emerged recently from renowned scientific and industrial community of the Hyderabad area. Providing both original research articles, reviews and perspectives, this issue's goal is to bring in a wide range of what the scholar and practitioners are researching and working on currently.

II. THEMES AND TOPICS:

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The special issue covers a wide array of themes and topics within statistics and data science, including but not limited to:

Machine Learning and Artificial Intelligence: Innovative algorithms, parameters and namesake examples for machine leaning maths, deep learning and artificial intelligence.

Statistical Methodologies: Advanced statistical techniques that deal with complex data systems and multiple dimensions, such as Bayesian statistics, non-parametric methods and spatio-temporal modelling.

Data Mining and Knowledge Discovery: Technologies measuring and extracting meaningful results of large-scale data based on text mining, pattern recognizing, and clustering algorithm.

Computational Statistics: High-performance computing methods for scalable computing and data analysis, involving parallel computing, distributive systems, and cloud computing.

Applications in Industry and Society: Through case studies and applications of statistics and data science in a variety of settings, for instance medicine and finance and e-commerce plus social media analytics, and also the smart cities.

III. CONCLUSION:

To sum up, the current thematic journal is an expression for the blossoming research community of Hyderabad and its effects on the two said fields which are statistics and data science. In its effort to widen the avenues of research, practice, and stakeholder involvement, this issue aims to promote dialogue and discourse, exchange of ideas and transmission of knowledge in order to contribute to the progress of these essential fields. We expect beyond a shadow doubt that the papers published in this edition would spur on further studies, innovative and transformative applications of statistics and data science in and beyond Hyderabad.

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