The Evolving Landscape of Data Science: Techniques, Applications, and Future Directions

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Abstract: *Data science has emerged as a transformative discipline, leveraging large-scale data analysis, machine learning, and statistical techniques to derive insights and drive decision-making across domains. This paper explores the core methodologies of data science, its major application areas, and the key challenges faced by practitioners. Furthermore, it highlights emerging trends such as automated machine learning (AutoML), ethical AI, and the integration of data science with edge computing. The aim is to provide a comprehensive overview of the current landscape and future potential of data science.*

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