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(57) Abstract :

ABSTRACT AI-Driven Analytical Framework for Research Paper Quality Improvement and Accuracy is an advanced tool designed to elevate the standards of academic writing by addressing key challenges such as grammatical errors, logical inconsistencies, and data inaccuracies. Leveraging cutting-edge AI technologies, including natural language processing (NLP) and machine learning (ML), the framework performs a holistic evaluation of research papers, ensuring adherence to academic standards and ethical guidelines. The system offers real-time feedback on writing style, sentence structure, and academic tone, helping researchers craft professional and impactful manuscripts. A unique feature of this invention is its capability to assess the logical coherence and flow of research papers, identifying gaps in argumentation and weak transitions between ideas. Additionally, it validates the originality of content through advanced plagiarism detection algorithms and cross-references citations with trusted academic databases to ensure accuracy and compliance with journal-specific formatting. The integration of a statistical and data validation module further strengthens the framework, enabling researchers to verify the reliability of experimental data and statistical analyses. This adaptable and user-friendly framework complements traditional peer-review systems by automating critical evaluation processes, significantly reducing the time and effort required for quality assessments. Designed for multidisciplinary applications, it supports researchers across diverse fields, providing actionable insights and improving the overall credibility of academic outputs. By enhancing research paper quality at every stage, the invention establishes a new benchmark for academic excellence and innovation.

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