AI-Driven Optimization in Aerospace Engineering

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Abstract. The integration of artificial intelligence (AI) in aerospace engineering has opened new avenues for optimizing design and performance. This study examines AI-driven algorithms that enhance the efficiency of aircraft design processes, reducing time and resource consumption. By employing machine learning techniques, engineers can predict performance outcomes and identify optimal design parameters, streamlining the development cycle of aerospace technologies.

Keywords: AI optimization, aerospace engineering, machine learning, design efficiency, performance prediction

Introduction

Aerospace engineering is a field characterized by its complexity and high demands for precision. The introduction of artificial intelligence into this domain has the potential to revolutionize design processes and improve performance outcomes. In this paper, we explore the various AI-driven optimization techniques currently being utilized in aerospace engineering. Through machine learning models, engineers can simulate multiple design scenarios, predict potential outcomes, and fine-tune parameters to achieve optimal results. This approach not only accelerates the design cycle but also ensures higher efficiency and resource management. The findings of this study highlight the transformative impact of AI in enhancing aerospace engineering processes, paving the way for future innovations in aircraft technology.

References

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