Optimizing Neural Network Architectures for Autonomous Systems

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Abstract. The research focuses on optimizing neural network architectures to improve the decision-making capabilities of autonomous systems. Through a series of simulations and real-world tests, we identify key architectural modifications that enhance efficiency and accuracy. The findings indicate that specific architecture designs can significantly impact system performance, leading to more reliable and intelligent autonomous applications. This study provides a framework for future research in neural adaptive systems.

Keywords: neural, network, autonomous, systems, engineering

Introduction: Intelligence engineering is crucial in the development of autonomous systems, which are becoming increasingly prevalent in industries ranging from transportation to healthcare. These systems rely on neural networks for critical decision-making processes. However, optimizing these networks to maximize efficiency and accuracy remains a key challenge. This paper explores novel architectural modifications that have shown significant improvements in performance in both simulated and real-world environments. By examining various configurations, we present a set of guidelines that can be used to enhance neural network designs for better decision-making in autonomous systems. These insights contribute to the development of more intelligent and reliable systems, paving the way for advancements in technology.

References

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