

Neural Network Architectures for Real-Time Image Processing

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Abstract. This research introduces novel neural network architectures optimized for real-time image processing tasks. By focusing on speed and accuracy, the study addresses the computational demands of applications such as autonomous vehicles and video surveillance. The proposed architectures demonstrate significant improvements in processing speeds, enabling real-time analysis without compromising on result accuracy.

Keywords: Neural Networks, Image Processing, Real-Time Analysis, Autonomous Vehicles, Video Surveillance

Introduction

Real-time image processing is critical for applications requiring instantaneous analysis and decision-making, such as in autonomous vehicles and video surveillance. However, achieving the necessary speed and accuracy poses significant computational challenges. This paper presents innovative neural network architectures designed to meet these demands. By optimizing network structures and algorithms, the research achieves marked improvements in processing speeds while maintaining high levels of accuracy. These advances promise to enhance the capabilities of real-time image analysis applications significantly.

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References

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