Artificial Intelligence

Efficient Neural Architecture Search for Segmentation

In the realm of computer vision, the architectural advancements in deep neural networks have led to groundbreaking progress in a wide array of tasks. One particularly promising avenue is neural architecture search (NAS), which aims to automate the design of architectures without relying solely on human expertise. While recent achievements in image classification have showcased the potential of NAS, its promises have yet to be thoroughly assessed in more challenging semantic segmentation tasks.

Addressing the challenges of applying NAS to semantic segmentation—such as high-resolution images and real-time inference speed requirements—a new approach named MoSegNAS has been proposed. MoSegNAS utilizes surrogate-assisted multi-objective methods to transform the original NAS task into an ordinary multi-objective optimization problem. This approach effectively balances segmentation accuracy and inference speed, crucial for real-time applications like autonomous driving...

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