CS6420

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Semester project proposal

Title: **Spatial Structure Preserving Feature Pyramid Network for Semantic Image Segmentation**

Description:

The article discusses recent advancements in semantic image segmentation using Fully convolutional Networks (FCNs). However, FCN-based methods can cause low spatial resolution in deep layers leading to spatially fragmented predictions. The proposed solution uses a stacked fusing approach that exploits the multi-scale and pyramidal hierarchy of deep convolutional networks to extract feature maps with different resolutions. The stacked features preserve spatial structure information and have strong discriminative capability for pixel classification. A novel loss term is also proposed to preserve spatial structure information and regional connectivity of the predicted category label map. The proposed architecture, called spatial structure preserving feature pyramid network, significantly improves the spatial resolution of the predicted output. I’m going to try my best to achieve the proposed method used in the article.

Link:

[Spatial Structure Preserving Feature Pyramid Network for Semantic Image Segmentation | ACM Transactions on Multimedia Computing, Communications, and Applications (umsl.edu)](https://dl-acm-org.ezproxy.umsl.edu/doi/10.1145/3321512)