



 \succ High demands of processing graph data using deep neural network



Shape Graph Labeling

Problem Definition

Input: shape graph & vertex function







Challenges

- > Lack of a translation structure, which is the key of using convolution filters and allowing weight sharing
- > It is not trivial to downsample a graph, setting challenge for effective multi-scale analysis.



Connectivity between different graphs varies a lot. Filters learned for one graph cannot easily generalize to new graphs.

SyncSpecCNN: Synchronized Spectral CNN for 3D Shape Segmentation

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