Image Embedding Module

EM image

Dense embedding

$\mathbf{p}$

EmbedNet

$\mathbf{e}(\mathbf{p}) \in R^d$

S_b

S_a

Cropping

3D view

Sampling

$\mathbf{p} = (x, y, z, id)$

$\mathbf{e}(\mathbf{p})$

C

PointNet++

Surface point cloud

or

$\mathbf{p} = (flag1, flag2, flag3)$

C

$\mathbf{e}(\mathbf{p})$

3DCNN

Volumetric mask

2D view

$f(S_a, S_b)$

Connection Probability

Connectivity Prediction Module