SPCNet: Stepwise Point Cloud Completion Network

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In this supplementary material, we will give some detailed information about our network.

1. The Value of Training Parameter

We will give the value of parameter in this section, including α_1, α_2, α_3, α_4, β_1 and β_2. We assume Epoch to represent the training epoch number. So the value of α and β can be denoted as:

$$(\alpha_1, \alpha_2, \alpha_3, \alpha_4) = \begin{cases} (0.55, 0.25, 0.15, 0.05) & Epoch < 5 \\ (0.5, 0.2, 0.2, 0.1) & 5 \leq Epoch < 10 \\ (0.3, 0.3, 0.3, 0.1) & 10 \leq Epoch < 15 \\ (0.25, 0.25, 0.34, 0.16) & 15 \leq Epoch < 30 \\ (0.25, 0.25, 0.25, 0.25) & 30 \leq Epoch < 50 \\ (0.1, 0.2, 0.3, 0.4) & 50 \leq Epoch < 80 \\ (0.05, 0.15, 0.2, 0.6) & 80 \leq Epoch \end{cases}$$

$$(\beta1, \beta2) = \begin{cases} (0.95, 0.05) & Epoch < 5 \\ (0.9, 0.1) & 5 \leq Epoch < 10 \\ (0.8, 0.2) & 10 \leq Epoch < 15 \\ (0.7, 0.3) & 15 \leq Epoch < 30 \\ (0.6, 0.4) & 30 \leq Epoch < 50 \\ (0.55, 0.45) & 50 \leq Epoch < 80 \\ (0.5, 0.5) & 80 \leq Epoch \end{cases}$$

2. The detailed network in each iteration

Fig. 1 shows the whole SPCNet structure.
Fig. 2 shows the first SCM.
Fig. 3 shows the second SCM.
Fig. 4 shows the third SCM.
Fig. 5 shows the VMLP in first SCM.
Fig. 6 shows the VMLP in second SCM.
Fig. 7 shows the VMLP in third SCM.
Fig. 10 shows the ACM in first SCM.
Fig. 11 shows the ACM in second SCM.
Fig. 12 shows the ACM in third SCM.

3. The detailed network of PointNet-MLP and One Sub-Net

PointNet-MLP and One Sub-Net are from ablation experiment "Effect of VMLP". In here, we will show the detailed information of them. Fig.8 shows the detailed network of PointNet-MLP. Fig.9 shows the detailed network of One Sub-Net.
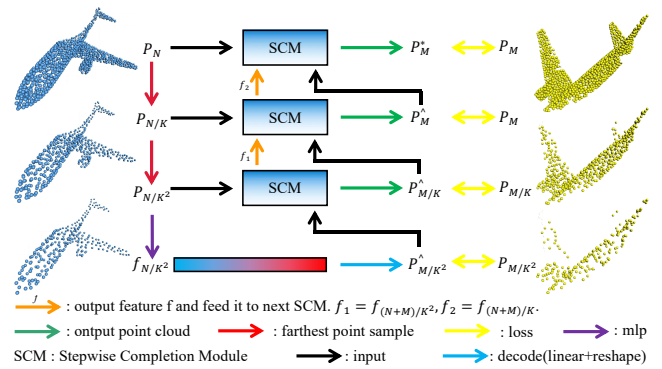
Figure 1: *Pipeline of our Stepwise Point Cloud Completion Network (SPCNet).*
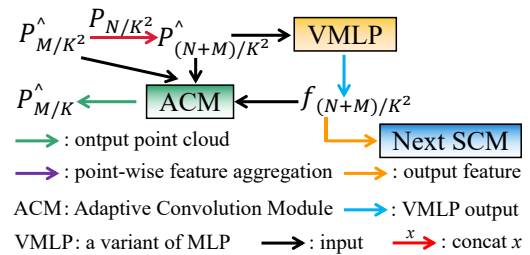
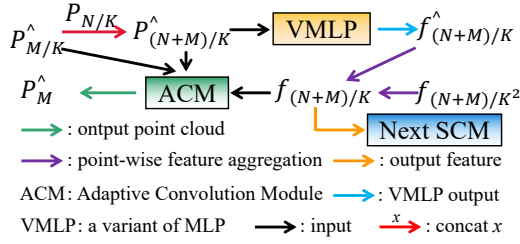
Figure 2: *Network of our first SCM.*
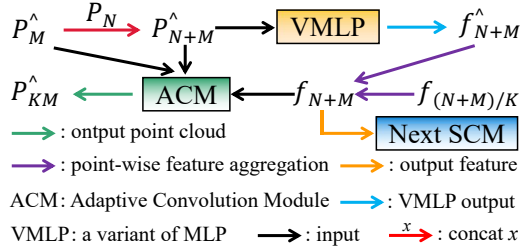
Figure 3: *Network of our second SCM.*

Figure 4: *Network of our third SCM.*
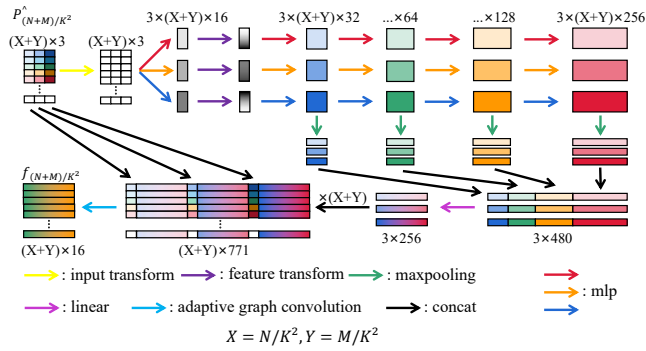

Figure 5: *Network of our first VMLP (a variant of MLP).*
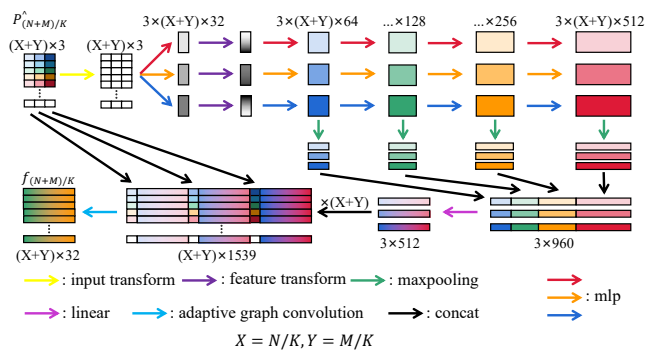

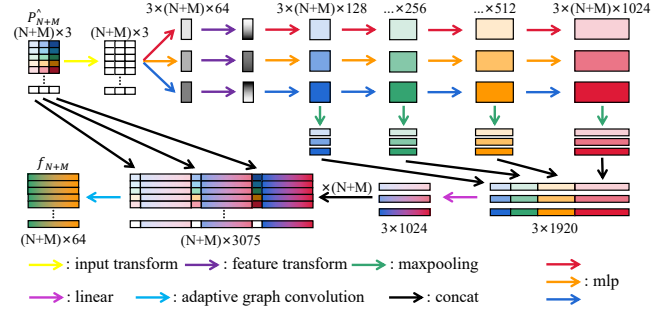**Figure 6:** *Network of our second VMLP (a variant of MLP).*

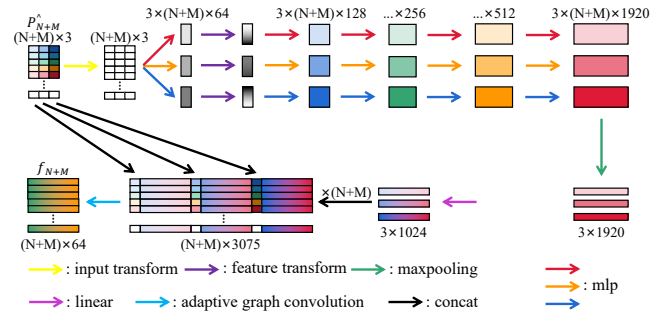**Figure 7:** *Network of our third VMLP (a variant of MLP).*

Figure 8: *Network of PointNet-MLP.*
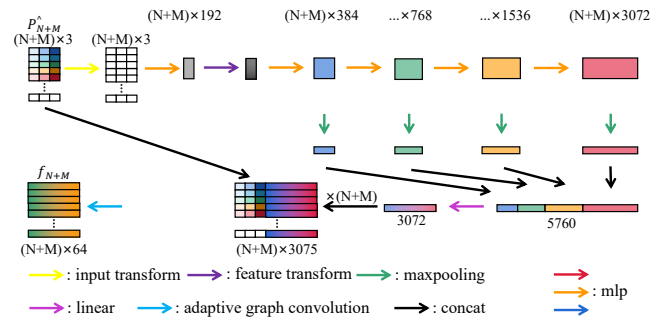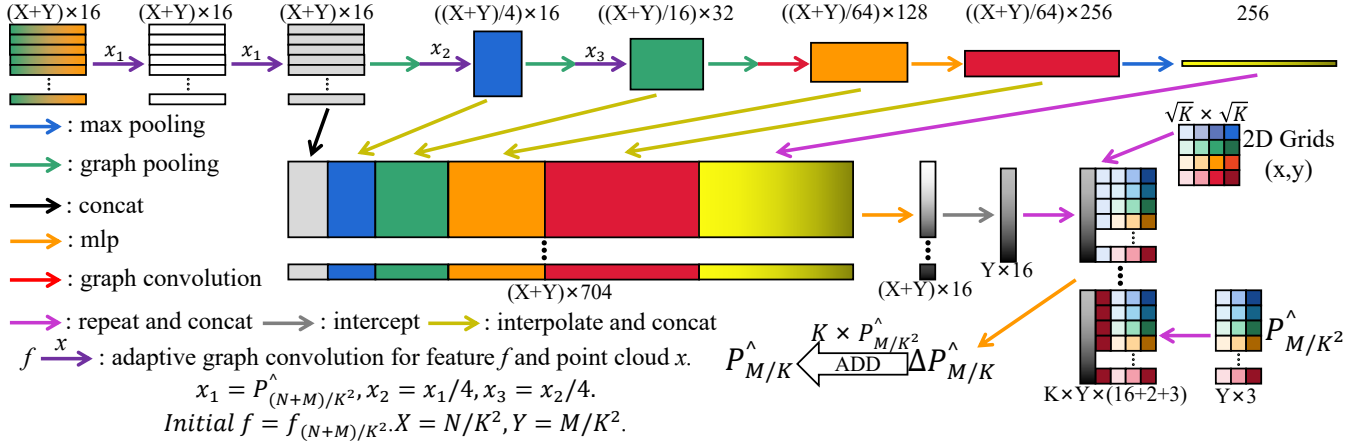

Figure 9: *Network of One Sub-Net.*

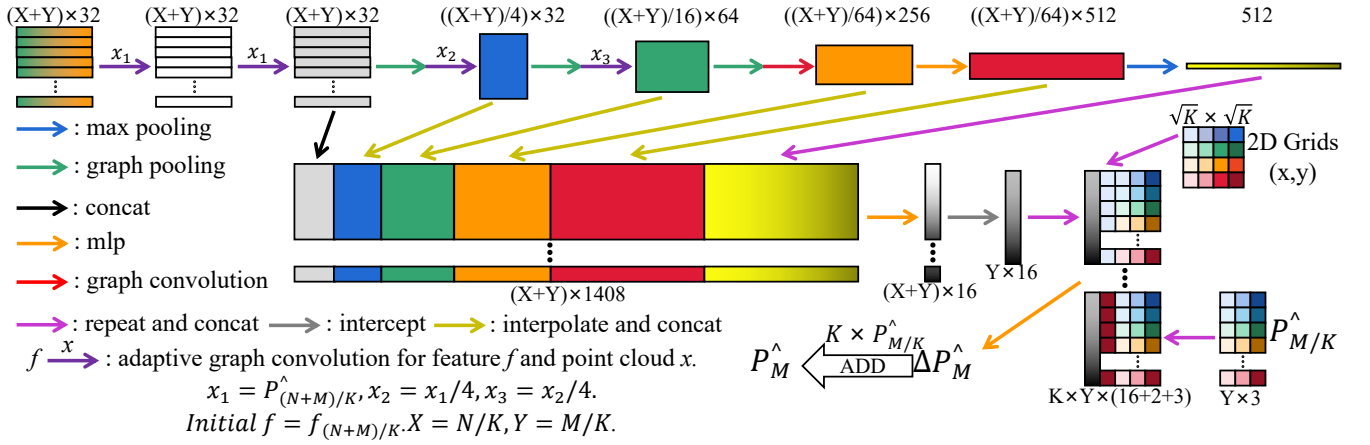**Figure 10:** *Network of our first ACM (Adaptive Convolution Module).*

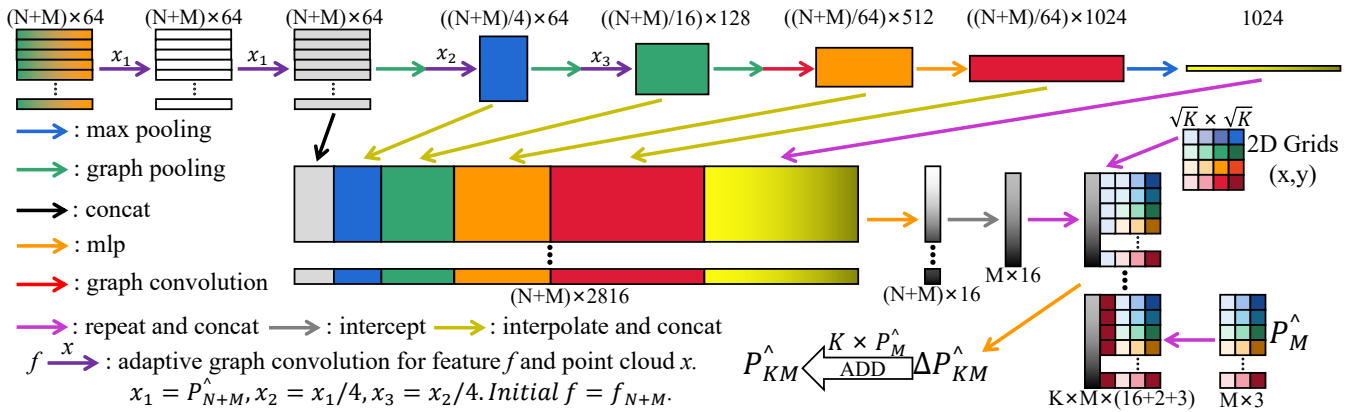**Figure 11:** *Network of our second ACM (Adaptive Convolution Module).*

Figure 12: *Network of our third ACM (Adaptive Convolution Module).*