

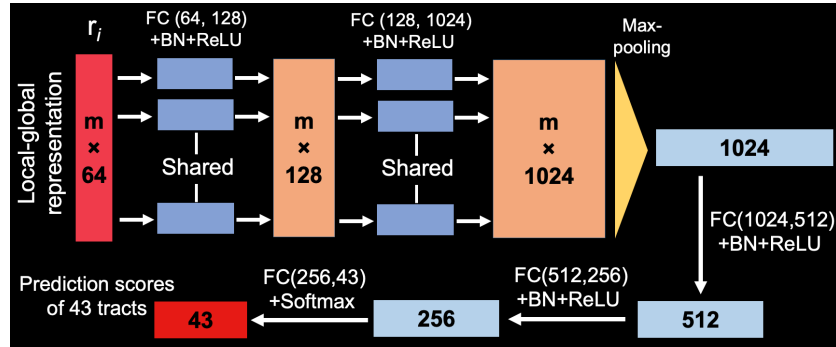
# Supplementary Material to: TractCloud: Registration-free Tractography Parcellation with a Novel Local-global Streamline Point Cloud Representation

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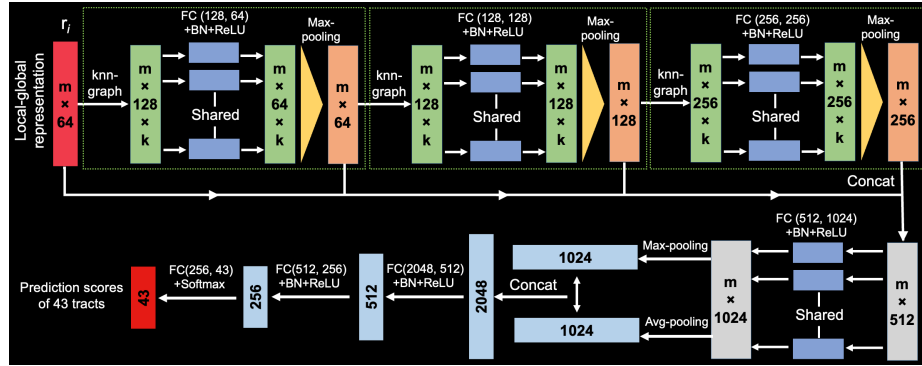
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**Table S1.** dMRI acquisition parameters for five independently acquired testing datasets.

Dataset	dMRI acquisition parameters
dHCP	b = 400/1000/2600 $s/mm^2$ ; 20 volumes with b = 0 $s/mm^2$ , 64 volumes with b = 400 $s/mm^2$ , 88 volumes with b = 1000 $s/mm^2$ , 128 volumes with b = 2600 $s/mm^2$ ; TE/TR = 90/3800 ms; resolution = 1.5x1.5x1.5 $mm^3$
ABCD	b = 3000 $s/mm^2$ ; 1 volume with b = 0 $s/mm^2$ , 60 volumes with b = 3000 $s/mm^2$ ; TE/TR = 88/4100 ms; resolution = 1.7x1.7x1.7 $mm^3$
HCP	b = 3000 $s/mm^2$ ; 18 volumes with b = 0 $s/mm^2$ , 90 volumes with b = 3000 $s/mm^2$ ; TE/TR = 89/5520 ms; resolution = 1.25x1.25x1.25 $mm^3$
PPMI	b = 1000 $s/mm^2$ ; 1 volume with b = 0 $s/mm^2$ , 64 volumes with b = 1000 $s/mm^2$ ; TE/TR = 88/7600 ms; resolution = 2x2x2 $mm^3$
BTP	b = 2000 $s/mm^2$ ; 1 volume with b = 0 $s/mm^2$ , 30 volumes with b = 2000 $s/mm^2$ ; TE/TR = 98/12700 ms; resolution = 2.2x2.2x2.3 $mm^3$



**Fig. S1.** The point-cloud-based network architecture of TractCloud using PointNet in our study.  $m$  is the number of points on a streamline. Abbreviations: FC, fully connected; BN, batch normalization; ReLU, rectified linear unit.



**Fig. S2.** The point-cloud-based network architecture of TractCloud using DGCNN in our study.  $m$  is the number of points on a streamline. Abbreviations: knn, k-nearest neighbors; FC, fully connected; BN, batch normalization; ReLU, rectified linear unit; Avg, average.