Weekly Report

January 31, 2018

1 2018.1.31

1.1 Random sketch deformation

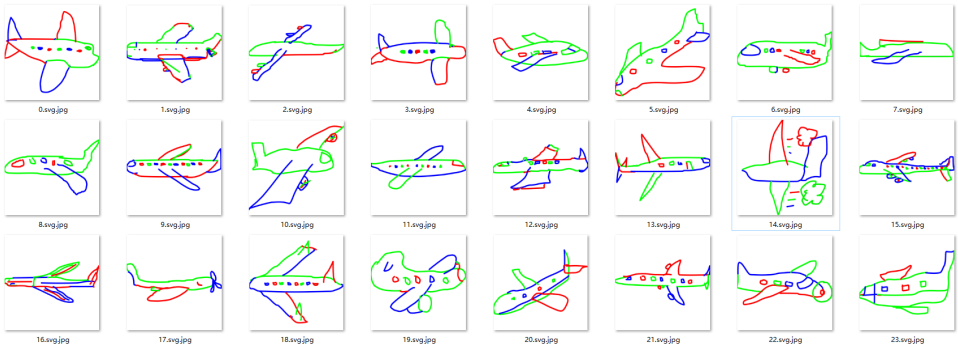

Figure 1: before deformation

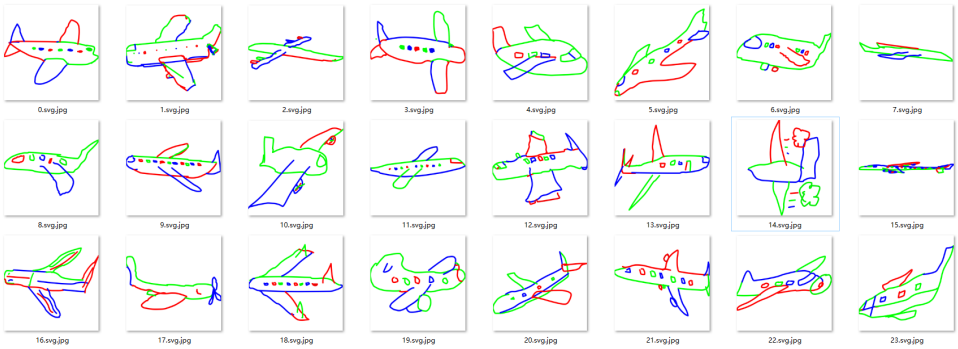

Figure 2: after deformation(with a fixed jittering range (0.1,0.3))

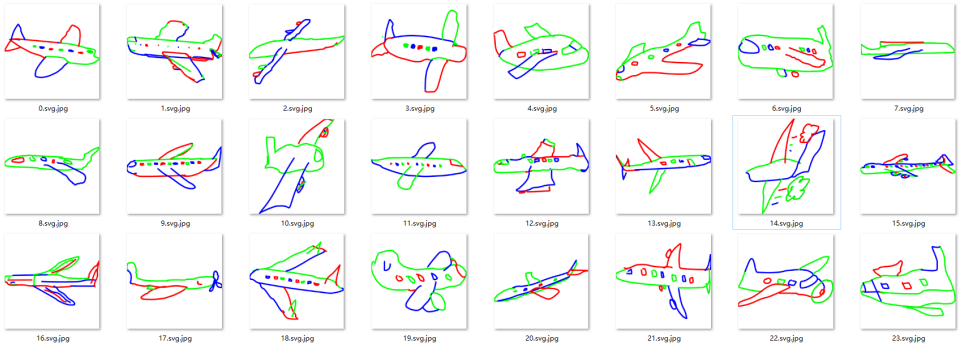

Figure 3: after deformation(adjust jittering range according to sample width and height)

1.2 Stroke removal

Design a proper weight. When number of strokes in a sketch is fewer, the strokes are tend to be preserved.

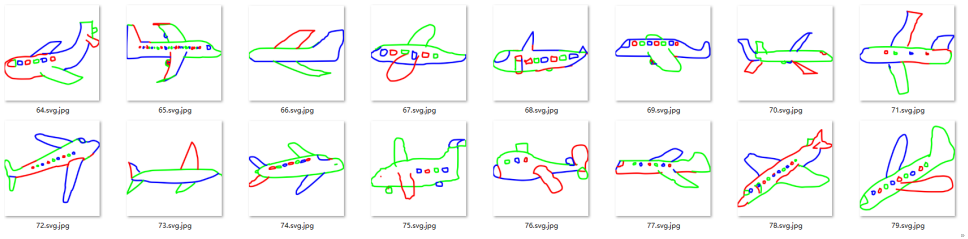

Figure 4: before deletion

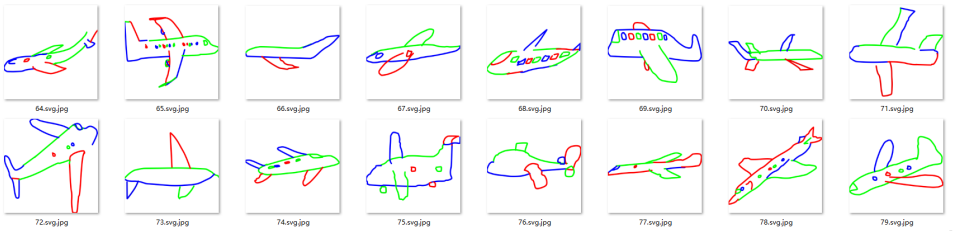

Figure 5: after deletion(remove 40% strokes)

1.3 Data augmentation experiments

Data augmentation:

1. random deformation 3 times(range(0.1,0.3))
2. stroke removal 3 times(0.2,0.4,0.6)

micro PointNet P1	micro PointNet P2	PointNet P3	testing acc
shared mlp(8,16,64)	shared mlp(32,32,128)	shared mlp(64,128,1024)	71.7%

Table 1: Trials.

P1 input	P1 output	P2 input	P2 output
512x30x3	512x2	256x100x(3+2)	256x32

Table 2: Trials.

Data augmentation:

1. random deformation 3 times(range(0.1,0.3))
2. stroke removal 3 times(0.2)

micro PointNet P1	micro PointNet P2	PointNet P3	testing acc
shared mlp(8,16,64)	shared mlp(32,32,128)	shared mlp(64,128,1024)	73.5%

Table 3: Trials.

1.4 TO DO:

P1 input	P1 output	P2 input	P2 output	change
512x30x3	512x2	256x100x(3+2)	256x29	current
512x30x2	512x2	256x100x(2+2)	256x29	remove stroke order
512x20x3	512x2	256x100x(3+2)	256x29	reduce group 1 size
512x10x3	512x2	256x100x(3+2)	256x29	reduce group 1 size
256x30x3	256x2	128x50x(3+2)	128x29	reduce group1 sampling frequence
128x30x3	128x2	64x25x(3+2)	64x29	reduce group1 sampling frequence
512x30x3	512x2	-	-	reduce group2

Table 4: To do.

1. Run TU-Berlin dataset(sampling sketches with space)
2. Reaugment data.
3. Sample sketch into (512,256,128).