

Data acquisition and preparation

Image 1



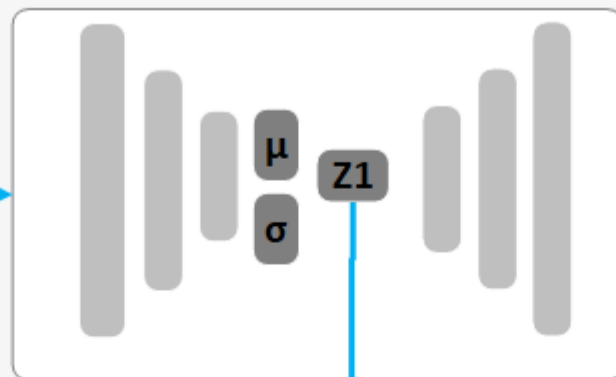
Ground Truth

1	1	0	0	2	1	2	2	2	1	1	2	2
1	1	1	0	2	1	2	2	2	0	1	2	0
2	2	1	0	2	1	0	2	2	0	0	0	0
0	0	0	2	2	0	0	1	2	2	1	1	2
0	0	0	0	0	0	0	2	2	2	0	1	2
0	0	1	1	1	1	1	2	2	2	0	0	0
1	1	1	1	1	1	0	0	0	1	1	1	1
2	2	2	2	2	2	0	0	0	2	2	0	0
2	2	2	2	2	1	1	1	1	1	1	0	0
0	0	0	0	0	1	1	1	1	1	1	0	0

Image 2



Siamese Variational Autoencoder



Concatenation



Latent space Z

Classification

Desertification Map



Loss