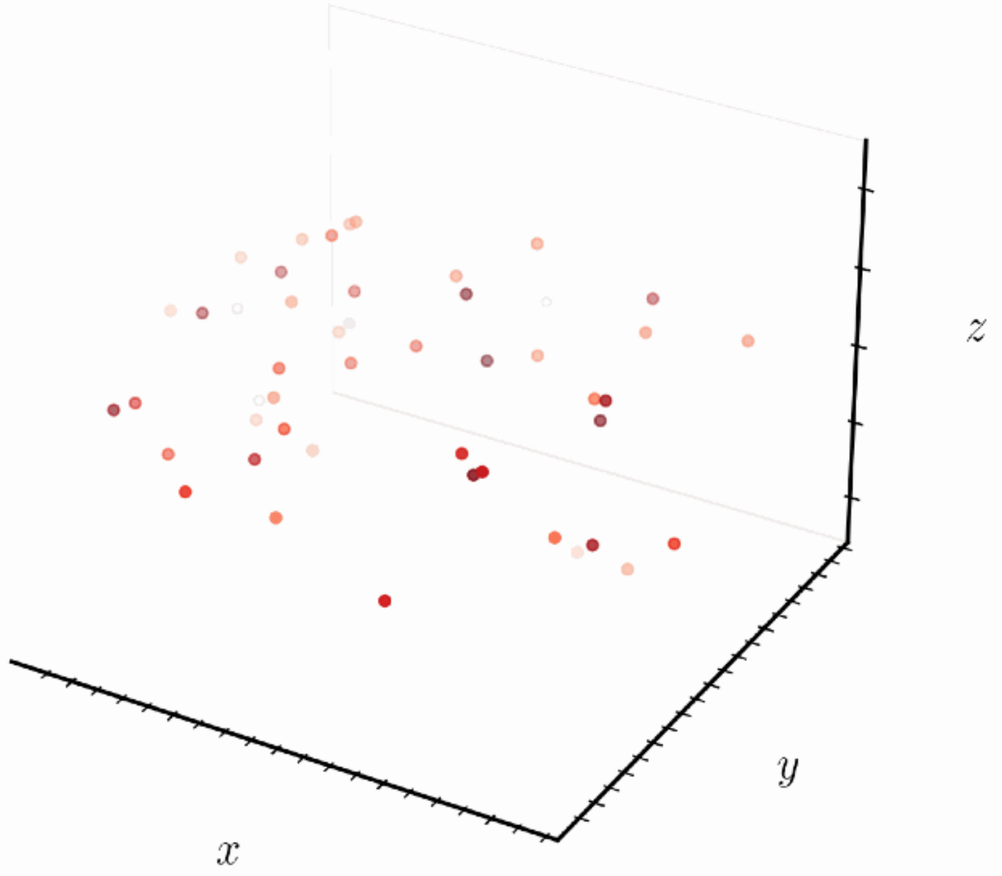
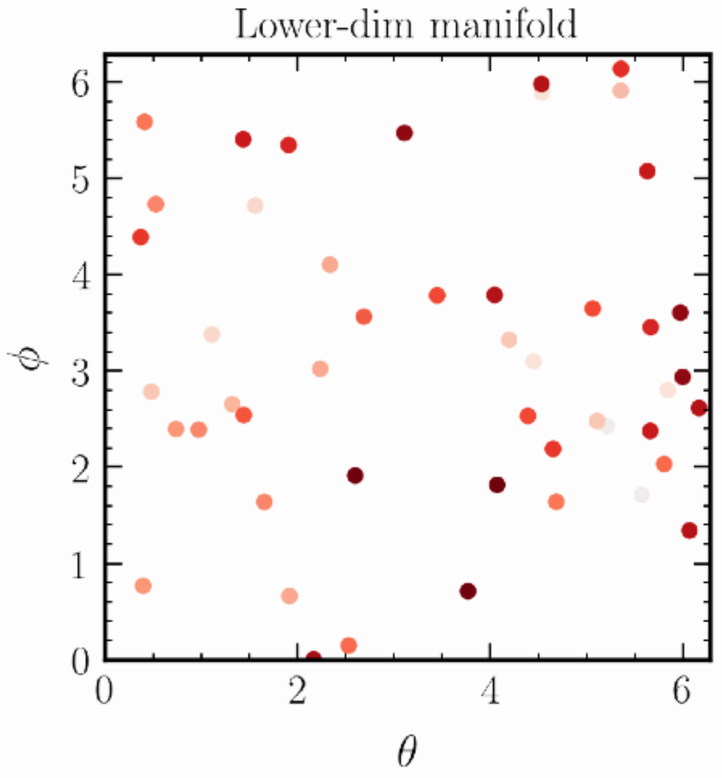
/66


x
y
z


Lower-dim manifold
0
1
2
3
4
5
6
ϕ
0
2
4
6
θ

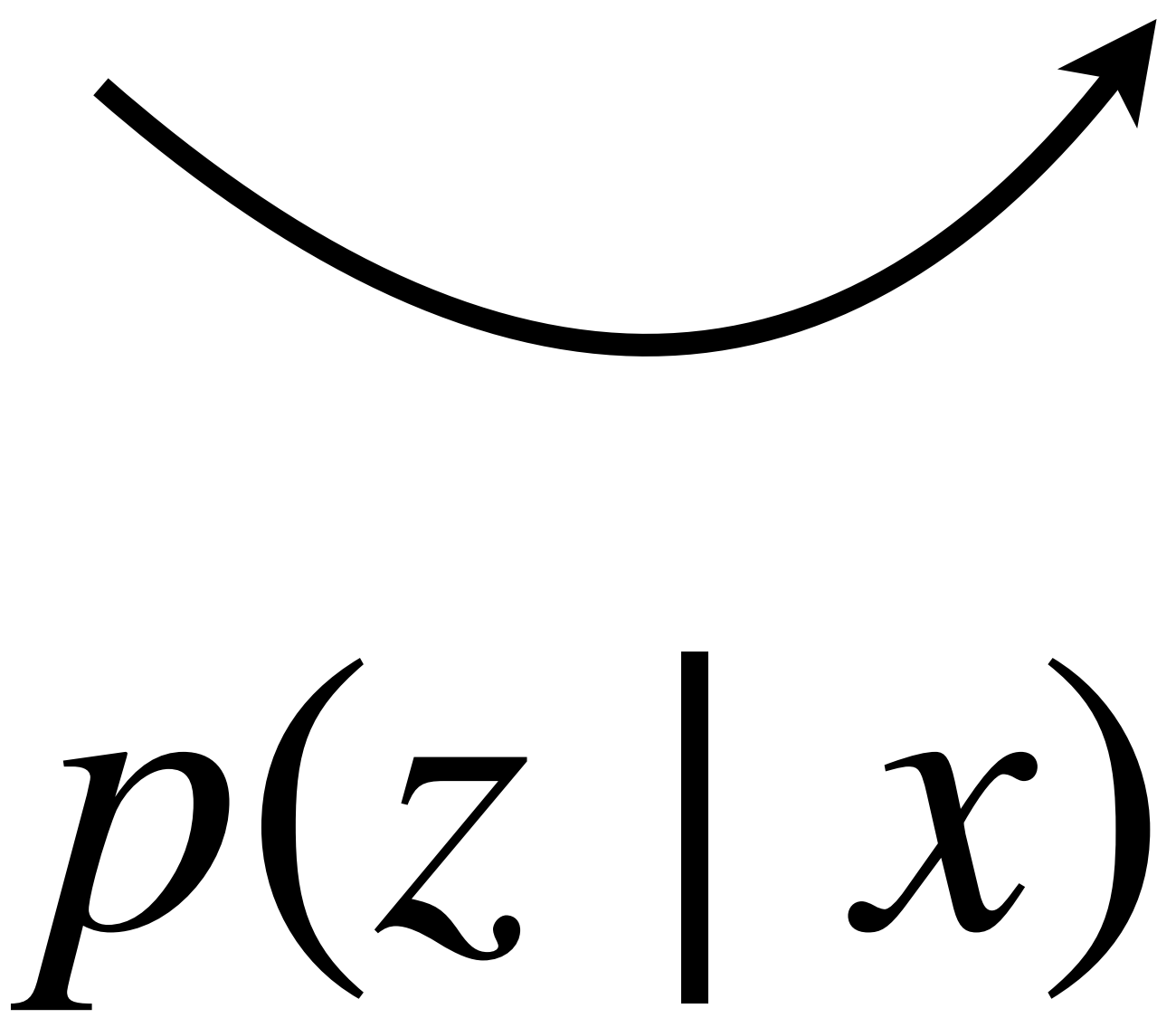
13

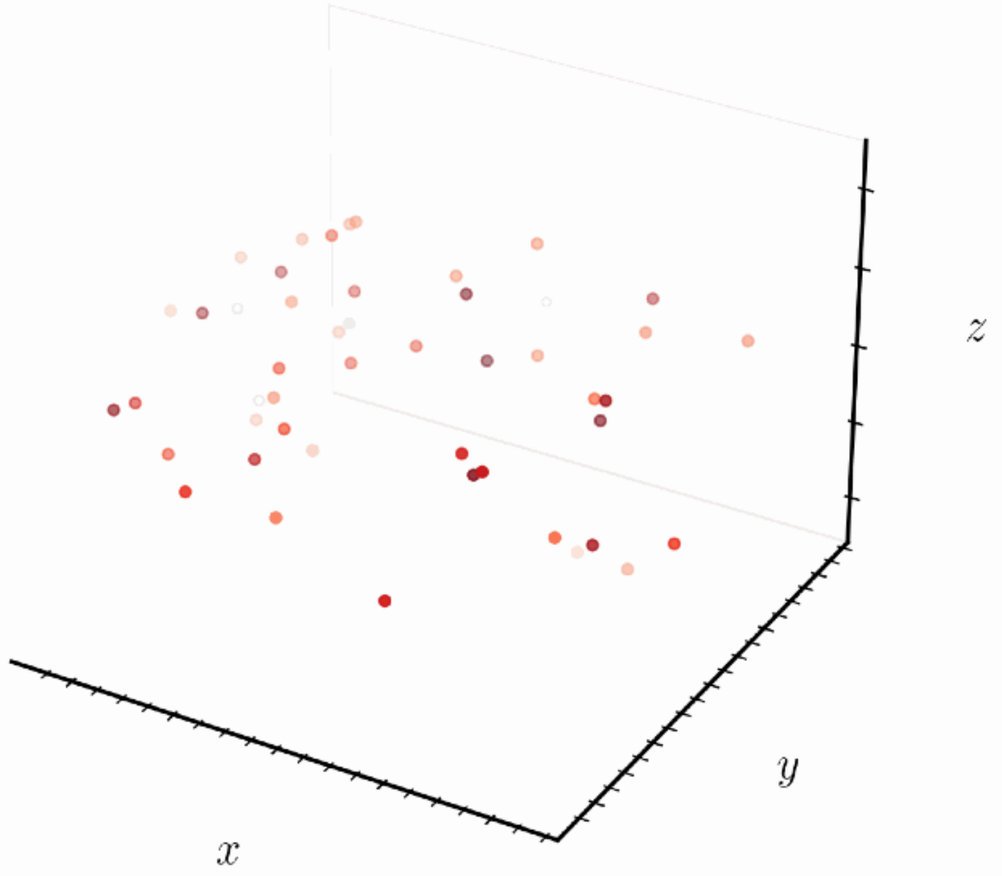
Real-world datasets often live in structured low-dimensional manifolds

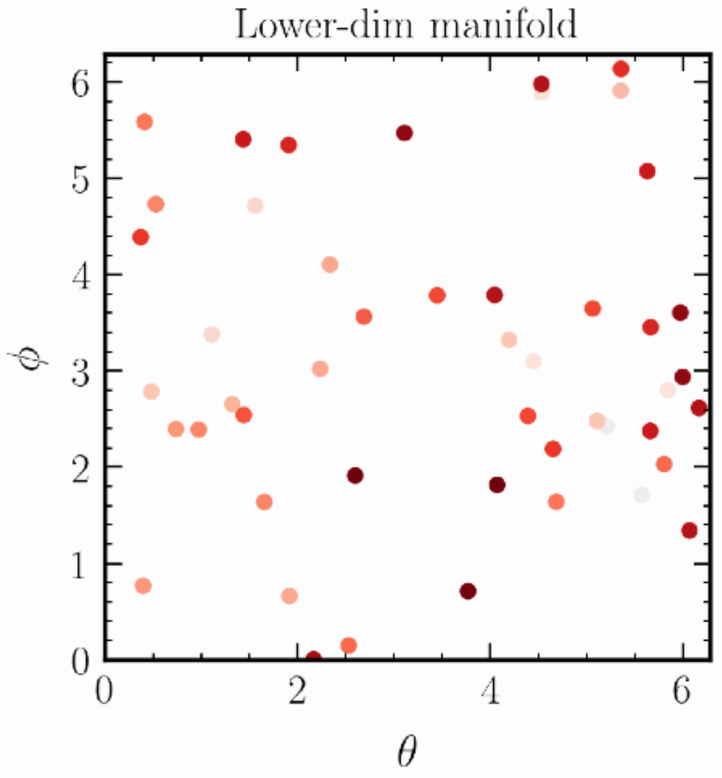
The pursuit of low-dimensional structure

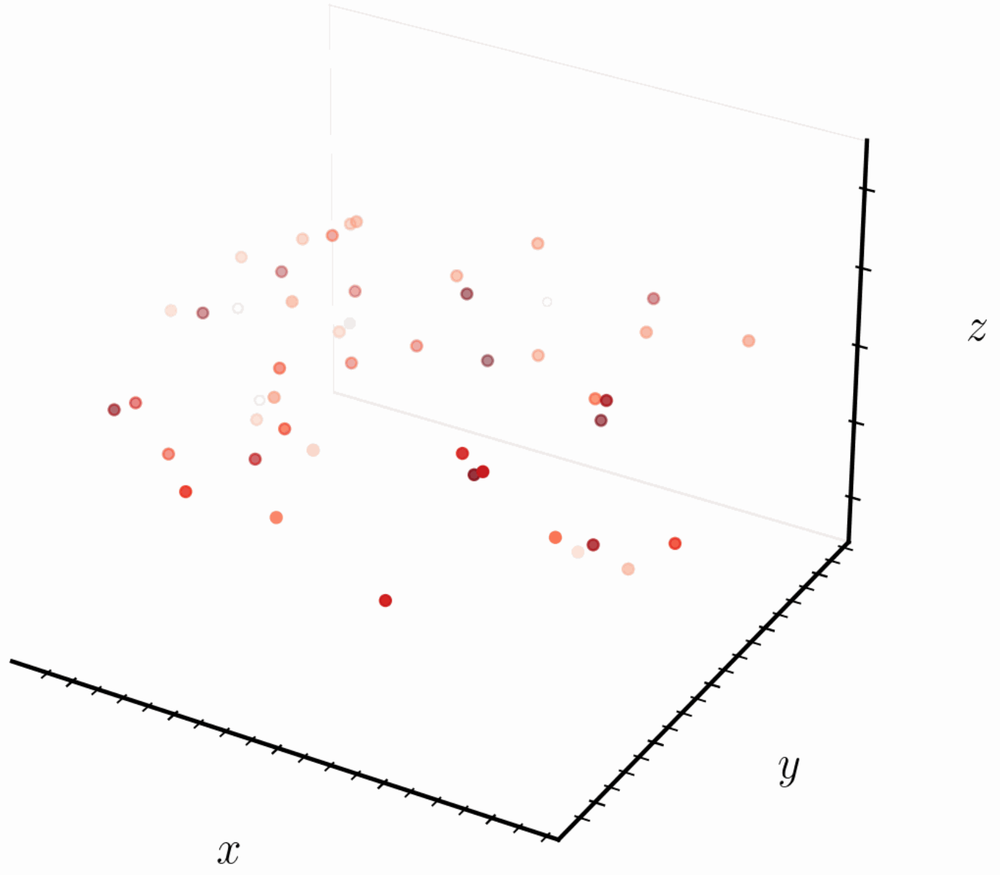
“Easy to model” z

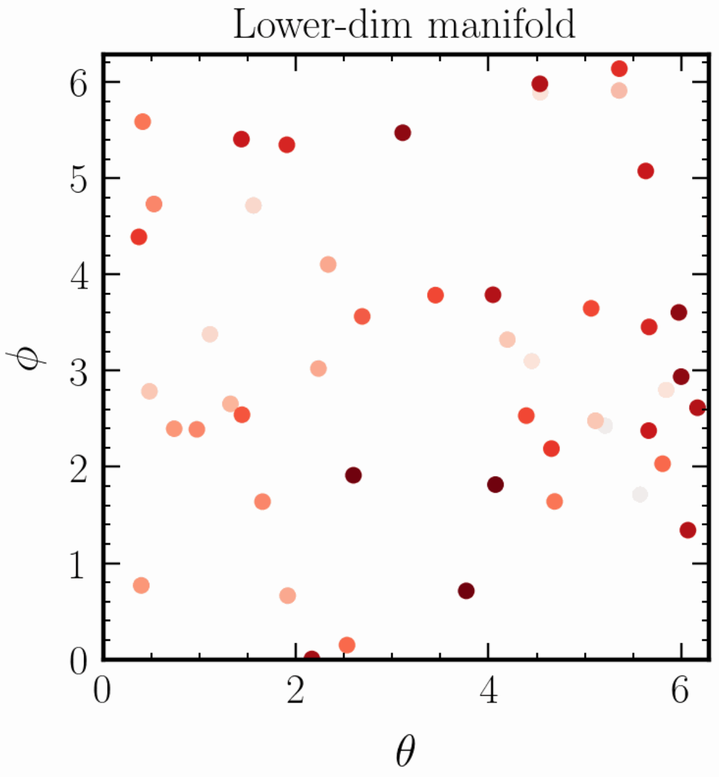
"Difficult to model" x


p(z | x)


x
y
z


Lower-dim manifold
0
1
2
3
4
5
6
ϕ
0
2
4
6
θ


x
y
z

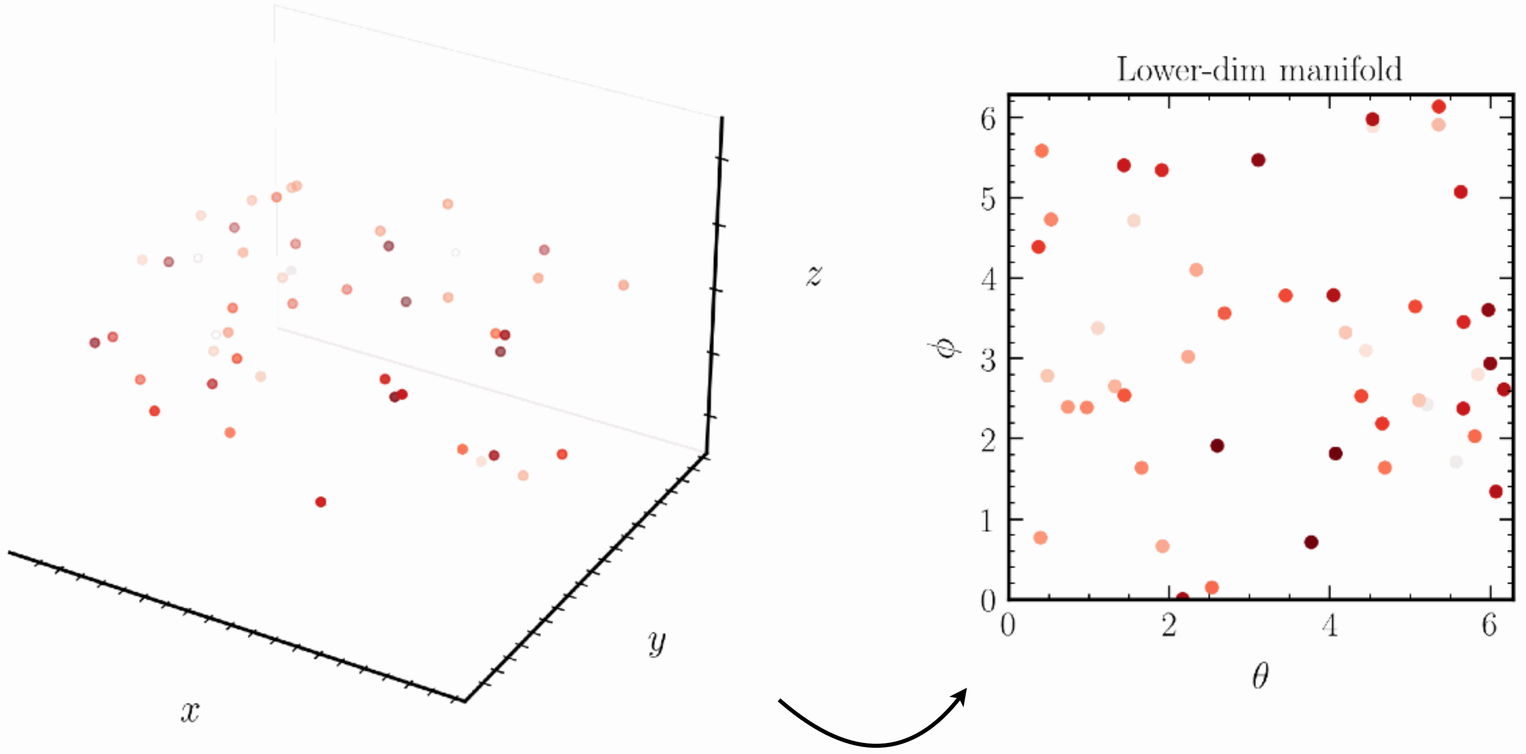

Lower-dim manifold
0
1
2
3
4
5
6
ϕ
0
2
4
6
θ

The pursuit of low-dimensional structure

Real-world datasets often live in structured low-dimensional manifolds

"Difficult to model" x

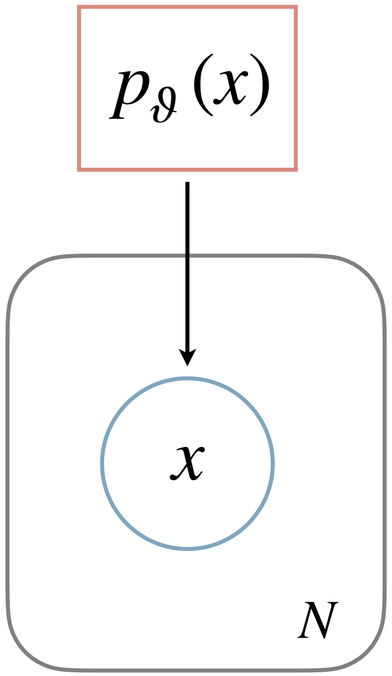
"Easy to model" z



$$p(z \mid x)$$

Latent-variable modeling

Learn lower-dimensional structure in the data distribution



Observed variables