

Lecture 18:

Dimensionality Reduction

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Density estimation with high-dimensional data

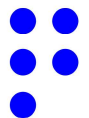
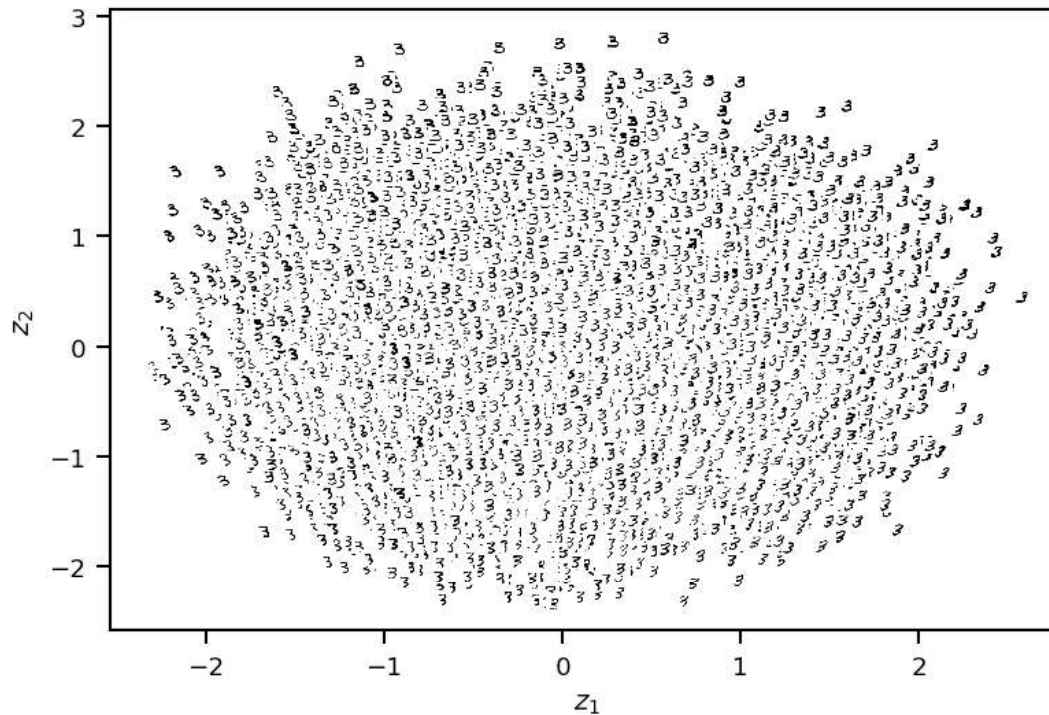
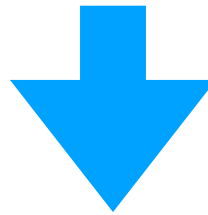
Clustering high-dimensional data

- Gaussian mixtures directly on high-dimensional data does not work very well...
- IDEA:
 - First reduce dimensionality using PCA.
 - Then apply Gaussian mixtures.

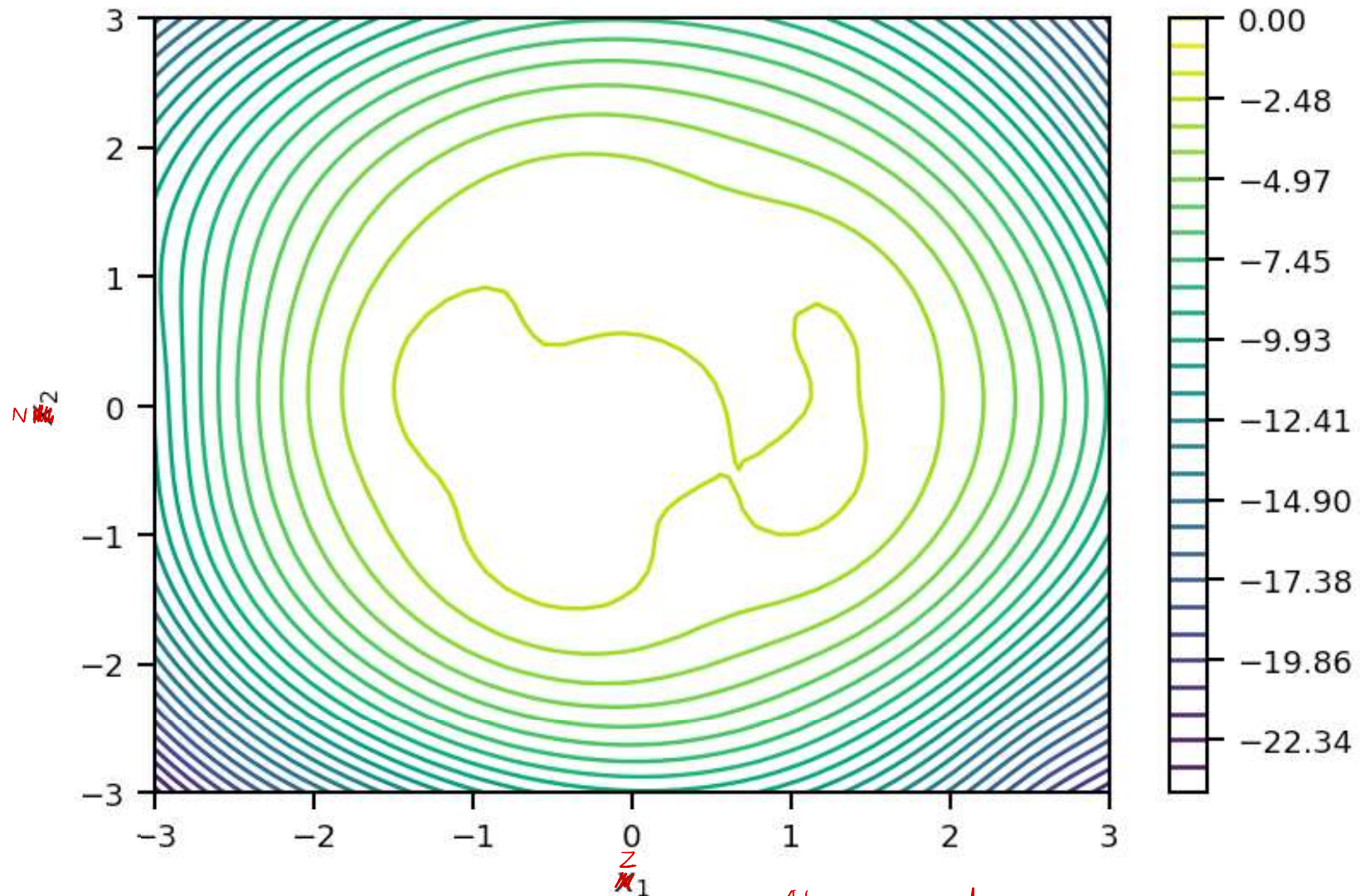
Gaussian mixtures on projected set



https://en.wikipedia.org/wiki/MNIST_database#/media/File:MnistExamples.png



Probability density in reduced space



Some random samples

