

conditional probability P(y|x)



discriminative/supervised

without neural networks (Sec. 3)

- regression
- · linear classifier

with neural networks (Sec. 4)

- · simple neural network
- convolutional neural network (geometry)
- recursive neural network (sequence)

probability P(x), P(x,y)



generative/unsupervised

with neural networks (Sec. 5)

- · restricted Boltzmann machine
- (variational) autoencoder
- · recursive neural network II
- generative adversarial networks

interpretability and vulnerability (Sec. 6)

## additional topics

dimensional reduction (Sec. 2)

- PCA
- t-SNE

reinforcement learning (Sec. 7)