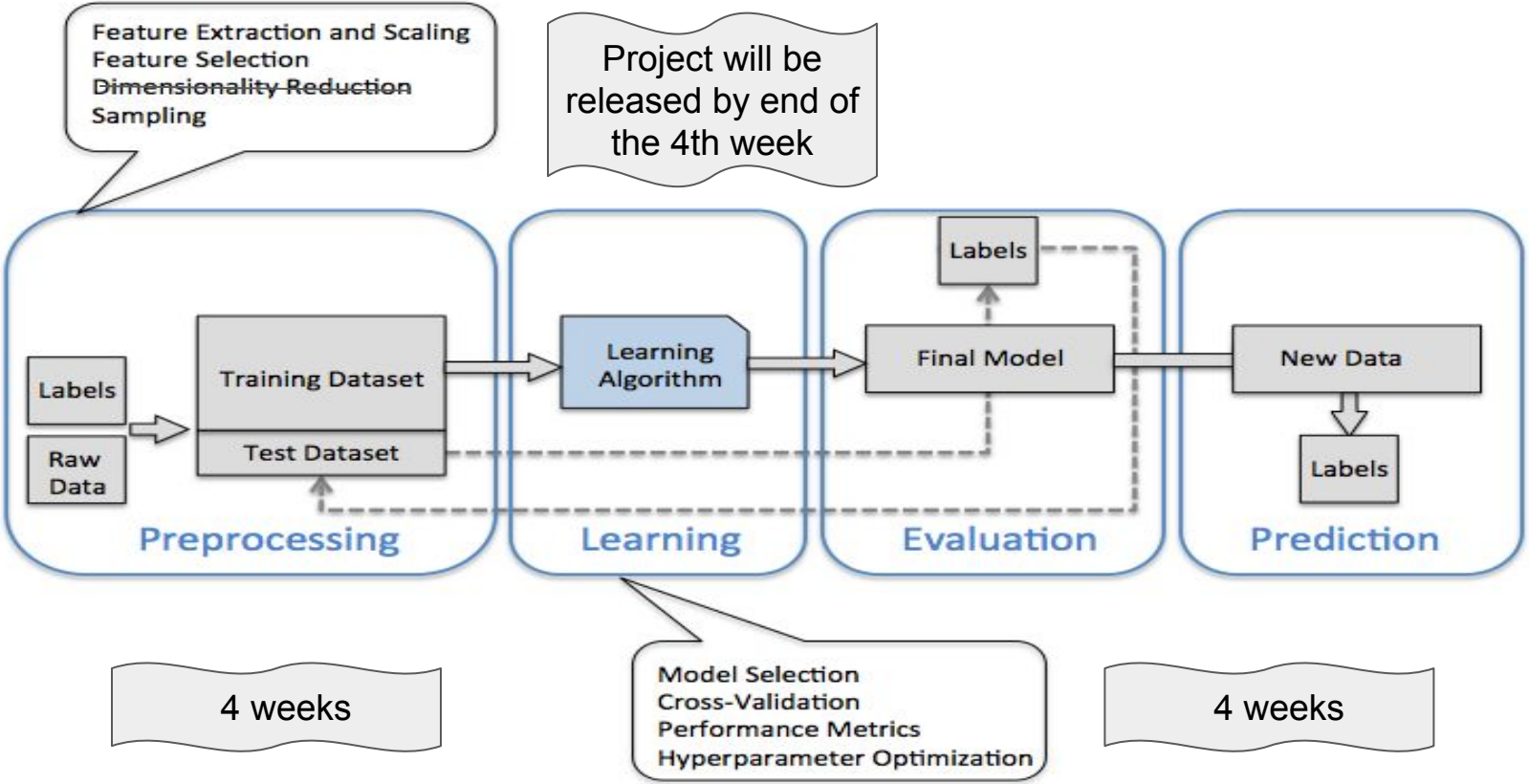
Data Mining and Machine Learning

Lab 01

Machine Learning

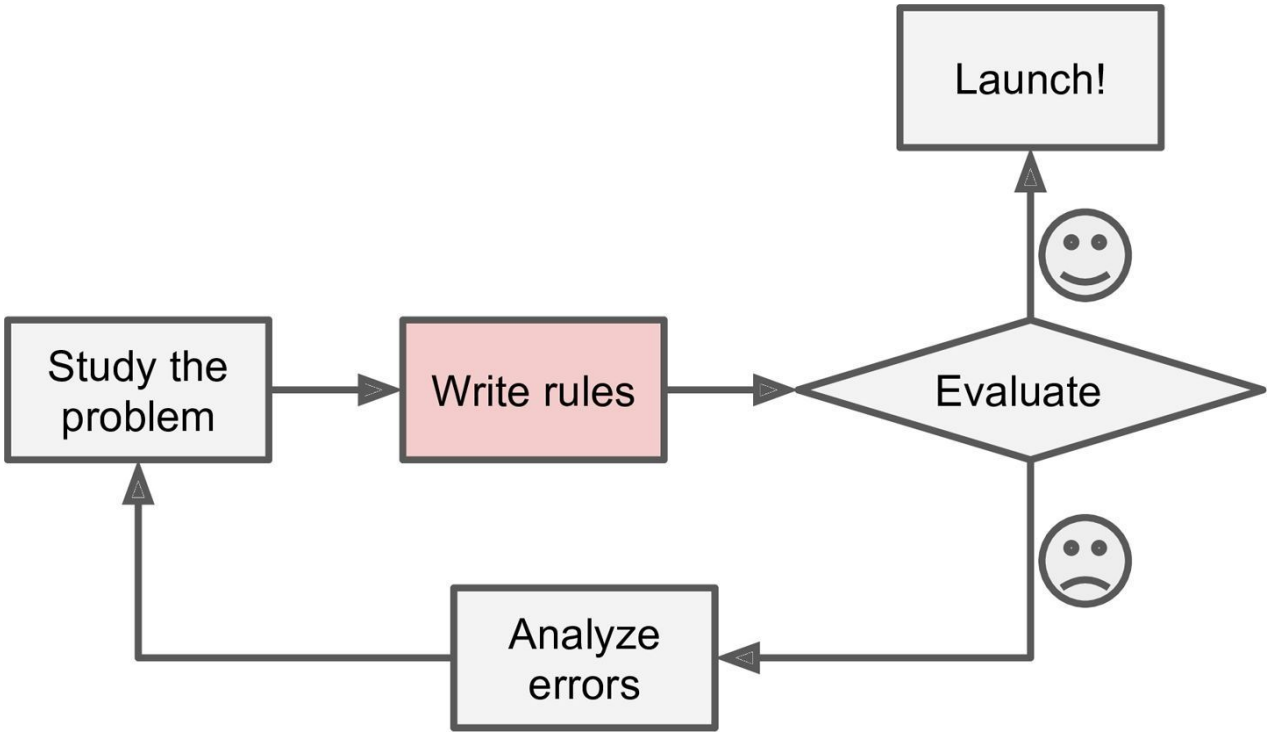
What are we supposed to do ?



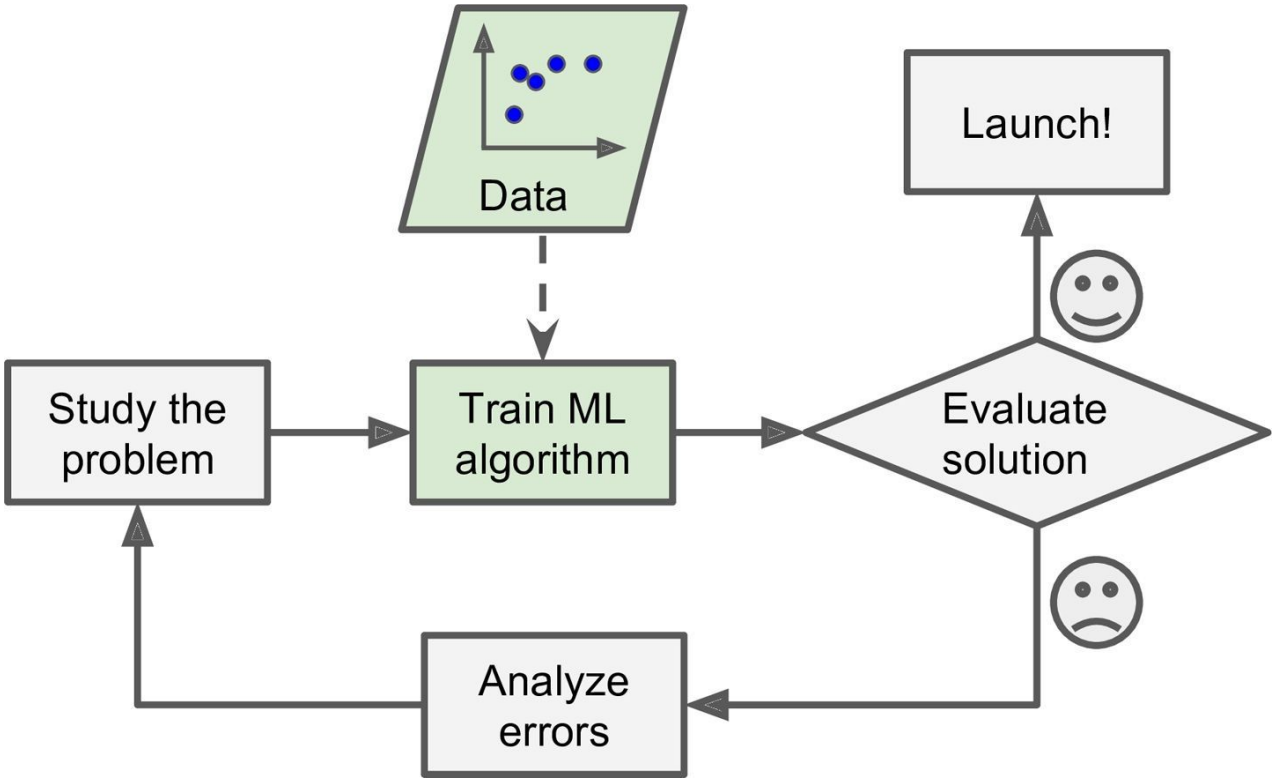
Data Mining and Machine Learning

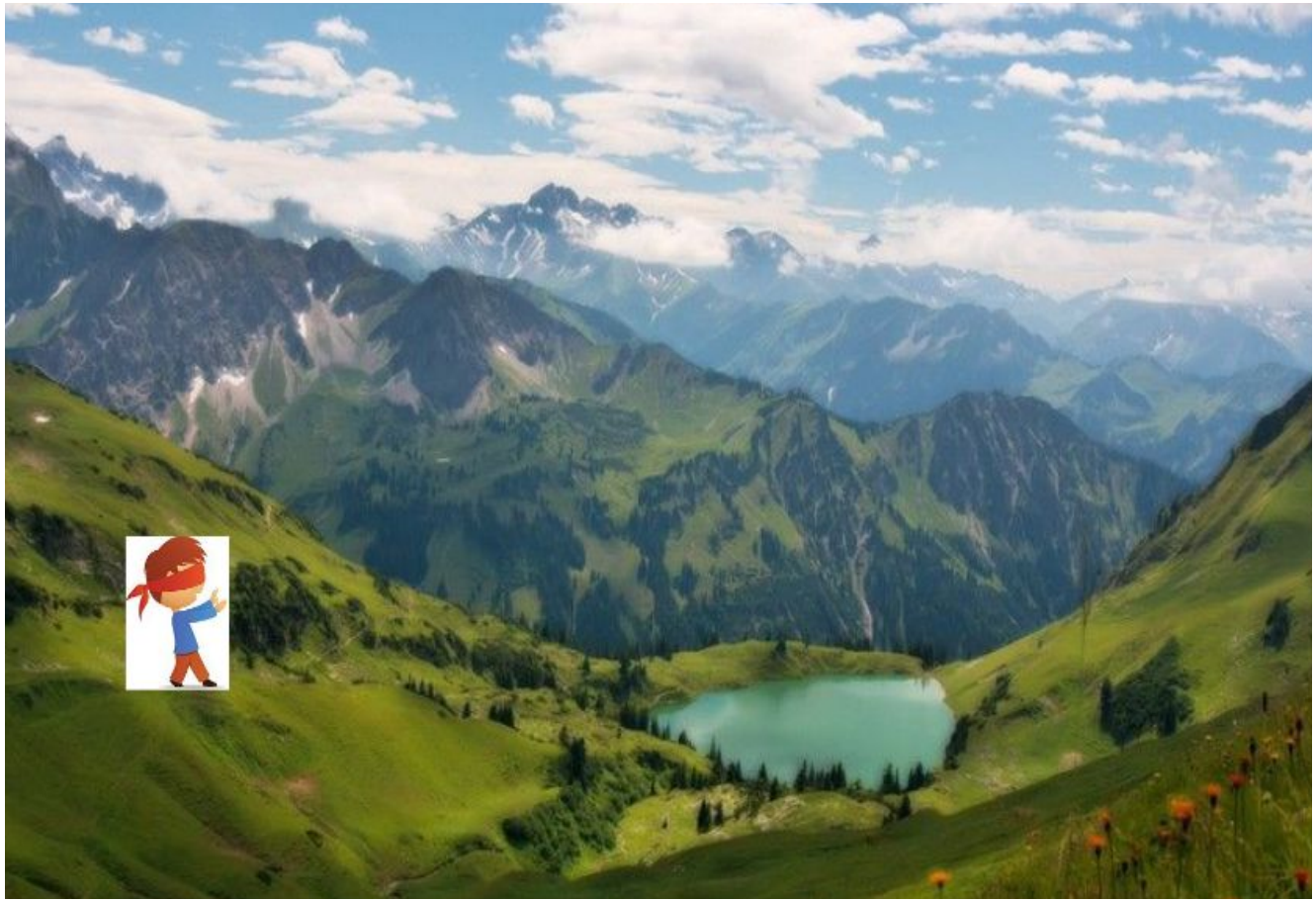
Lab 02

Traditional Approach

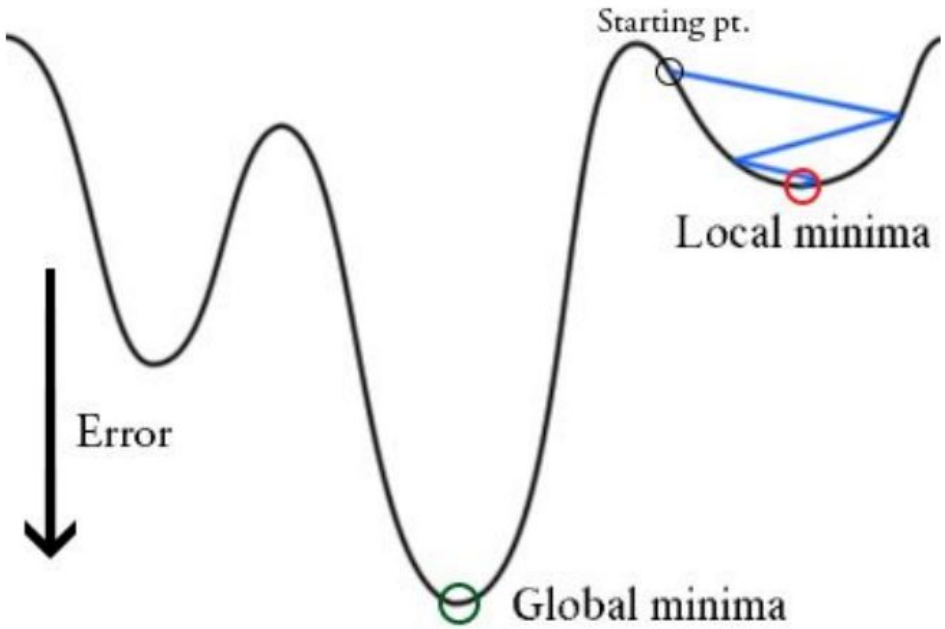


Machine Learning Approach





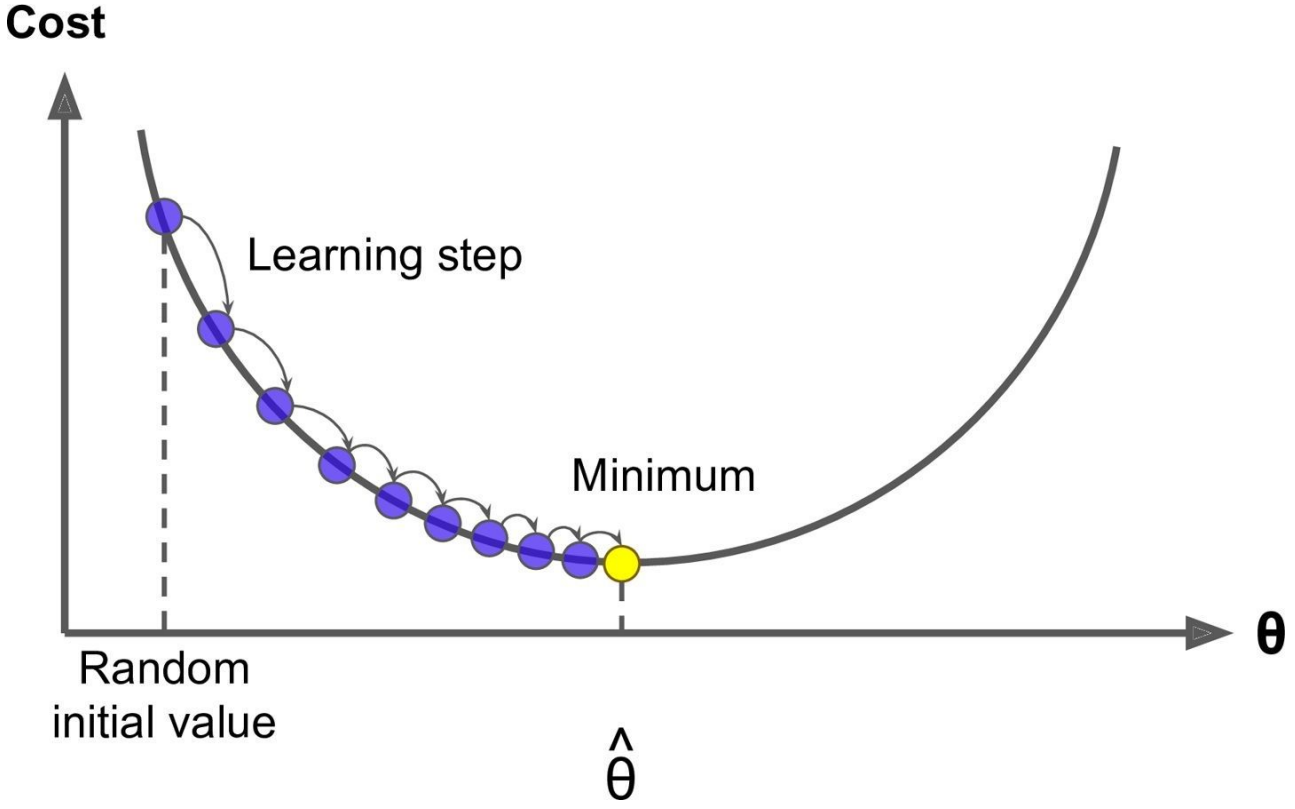
Source: http://cs231n.stanford.edu/slides/2016/winter1516_lecture3.pdf

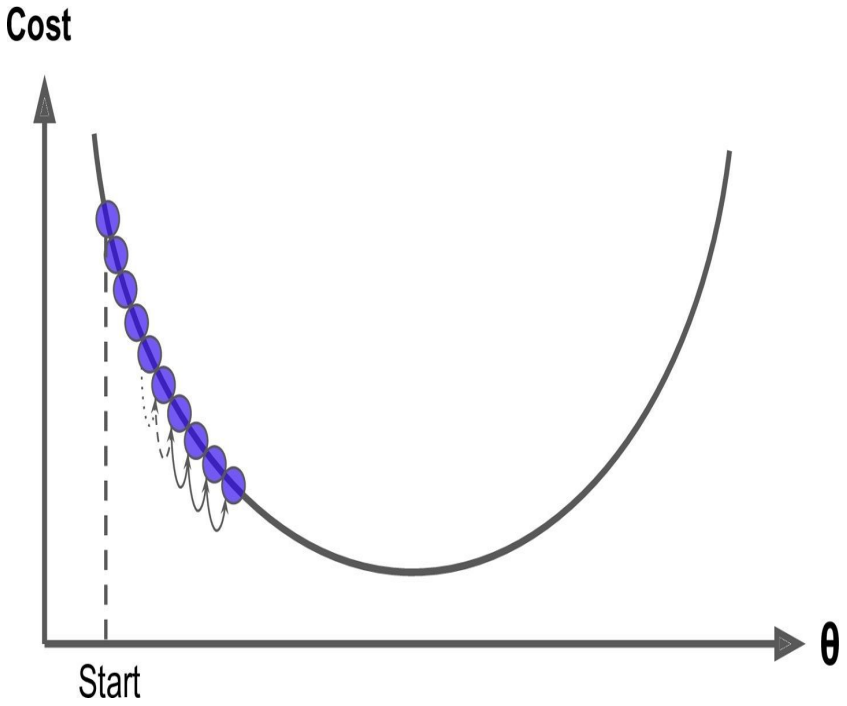

Starting pt.
Local minima
Error
Global minima

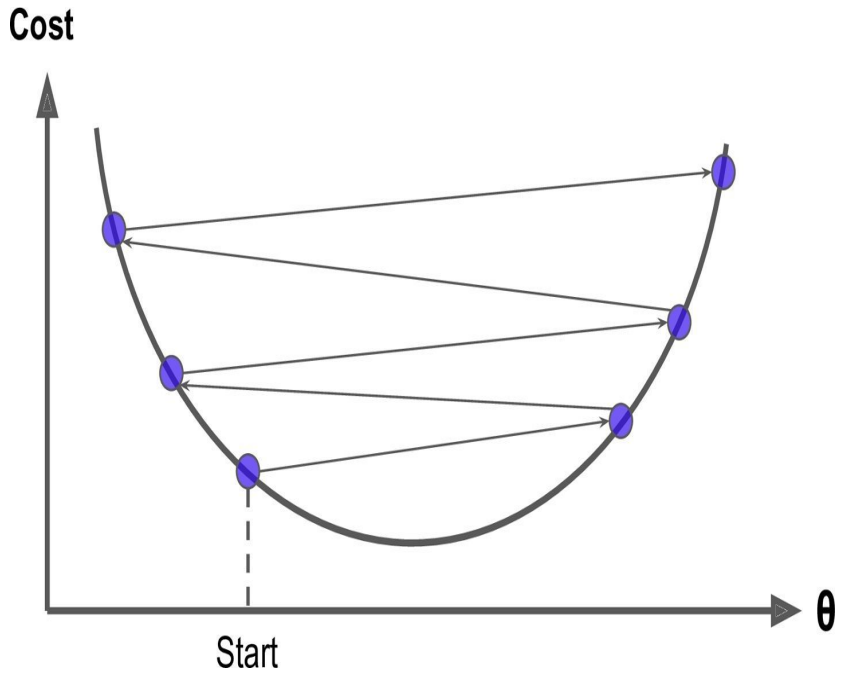
Data Mining and Machine Learning

Lab 04

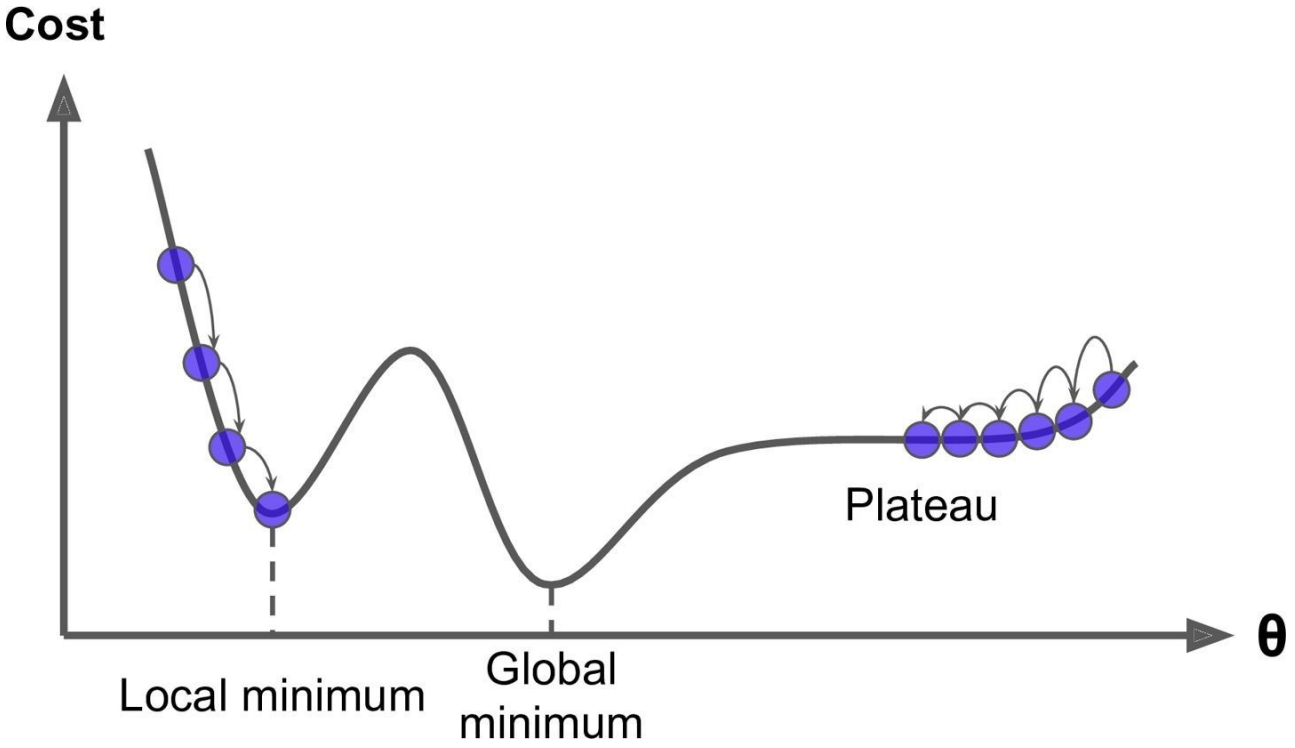
Gradient Descent



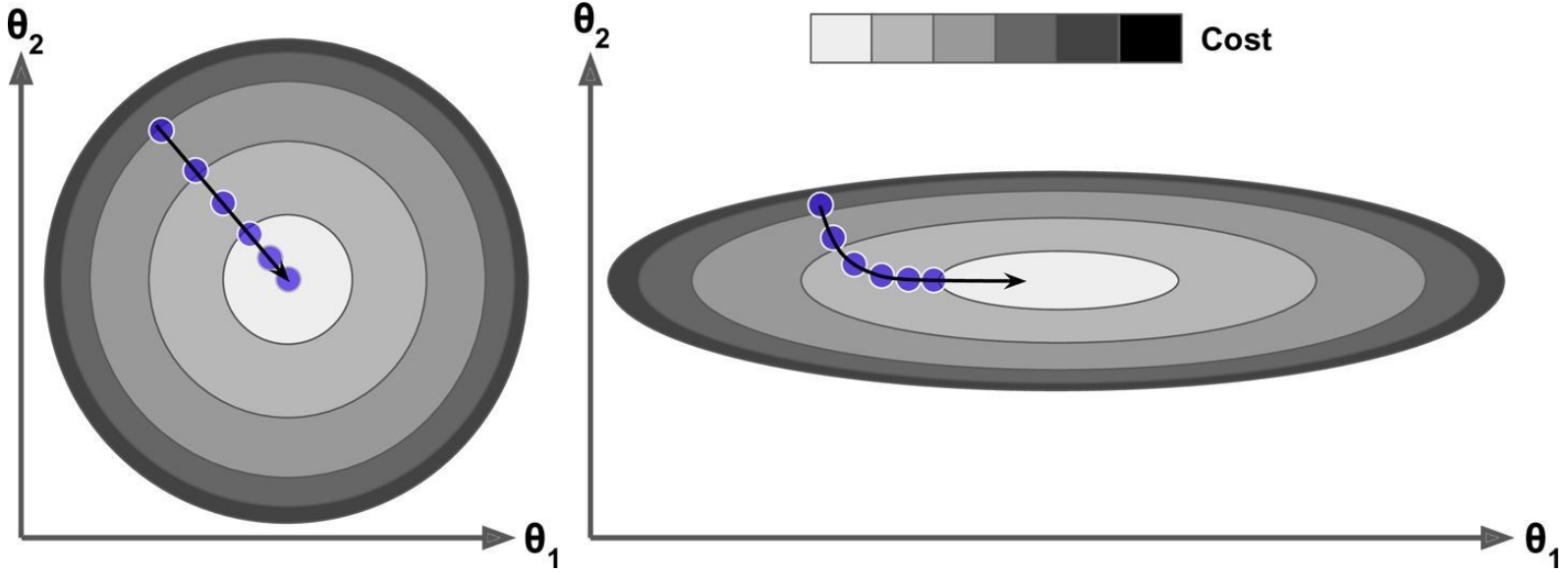

Cost
θ
Start


Cost
θ
Start

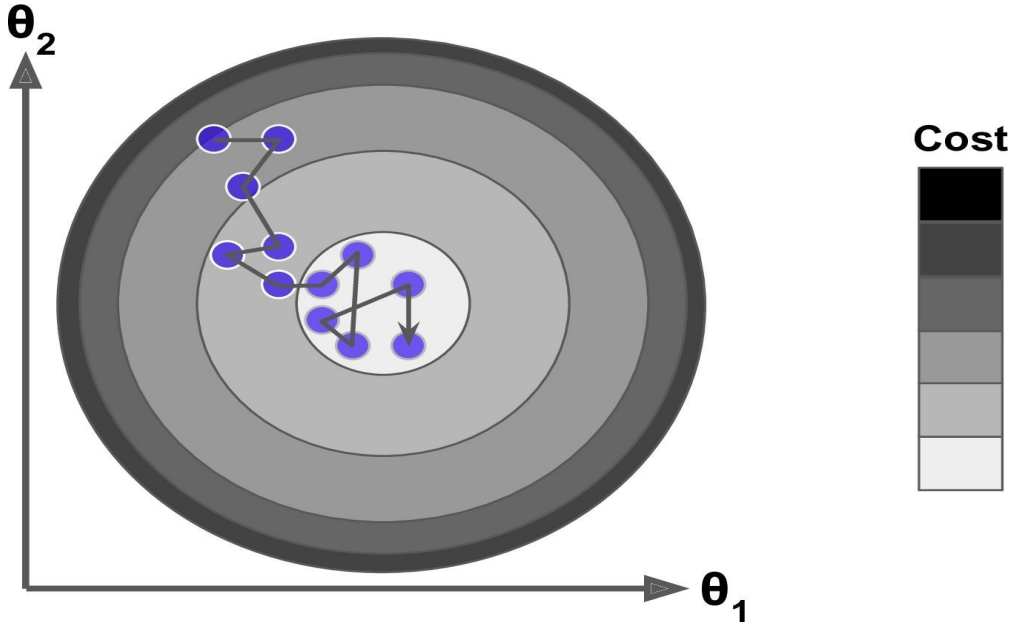
Gradient Descent Pitfalls



Gradient Descent with and Without Feature Scaling



Stochastic Gradient Descent




```
from sklearn.linear_model import SGDRegressor
Sgd_reg = SGDRegressor(n_iter=50, penalty=None, eta0=0.1)
```