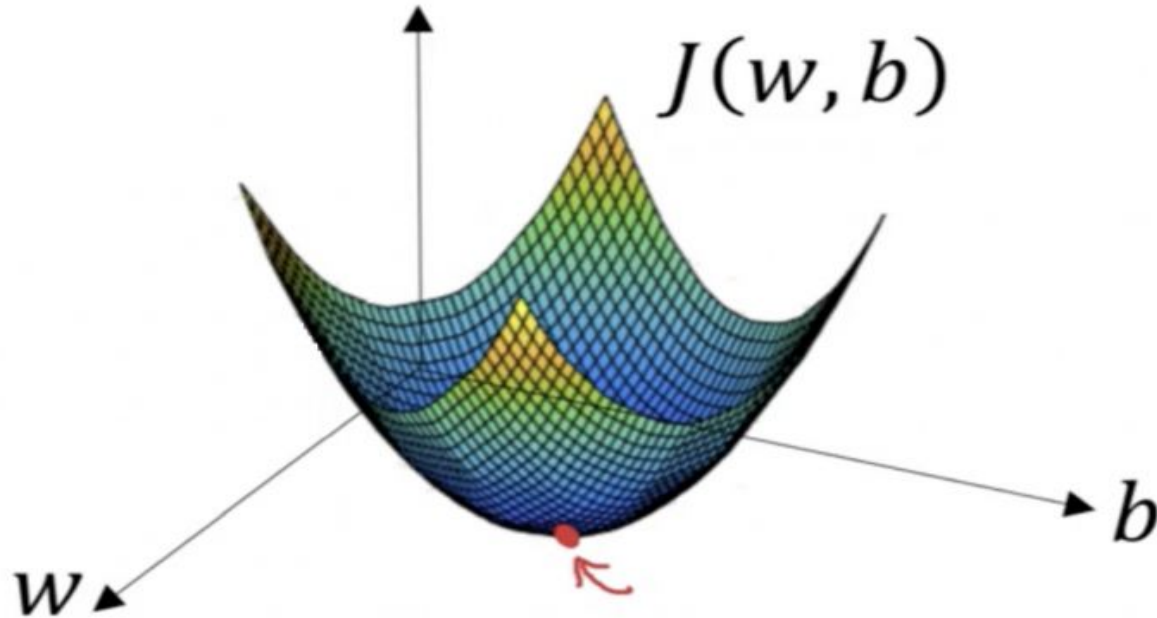# Lecture-8 : Loss Function & Gradient Descent
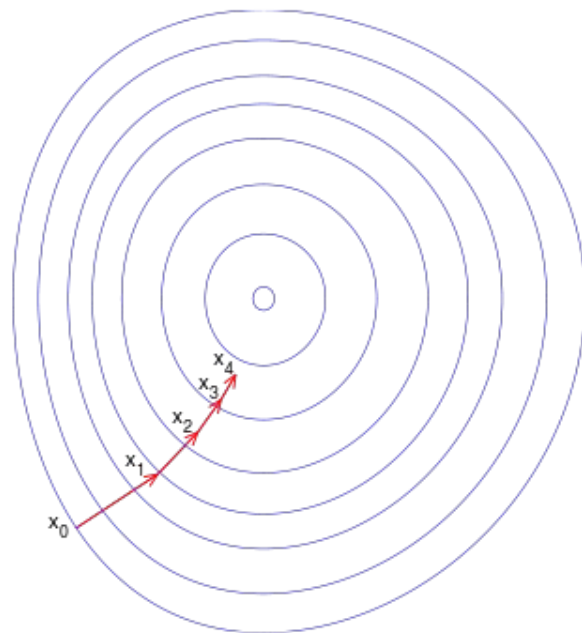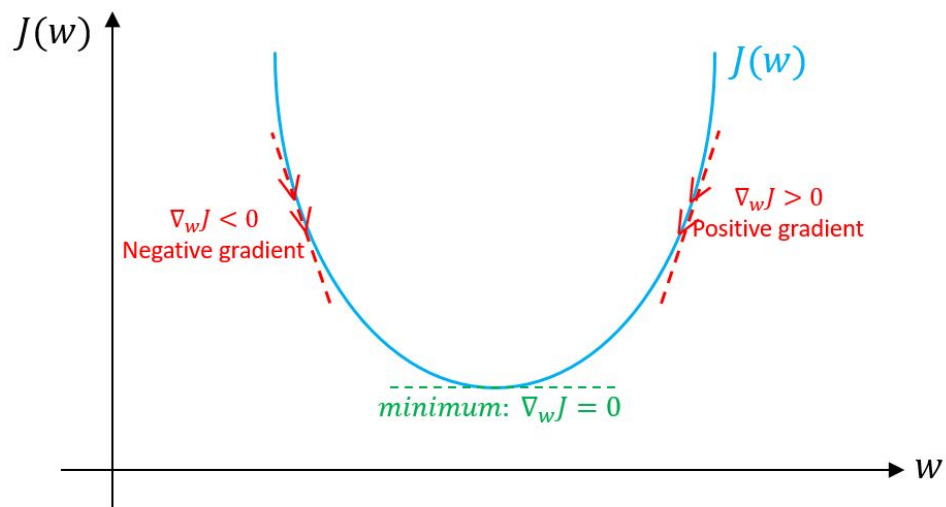
CSE 4237: Soft Computing

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Lecturer
CSE, AUST

Cost Function (Expectation)

$J(w, b)$

Gradient Descent

$J(w)$

$J(w)$

$\nabla_w J < 0$
Negative gradient

$\nabla_w J > 0$
Positive gradient

$minimum: \nabla_w J = 0$

w

x_0
x_1
x_2
x_3
x_4

Gradient Descent (Learning Rate)
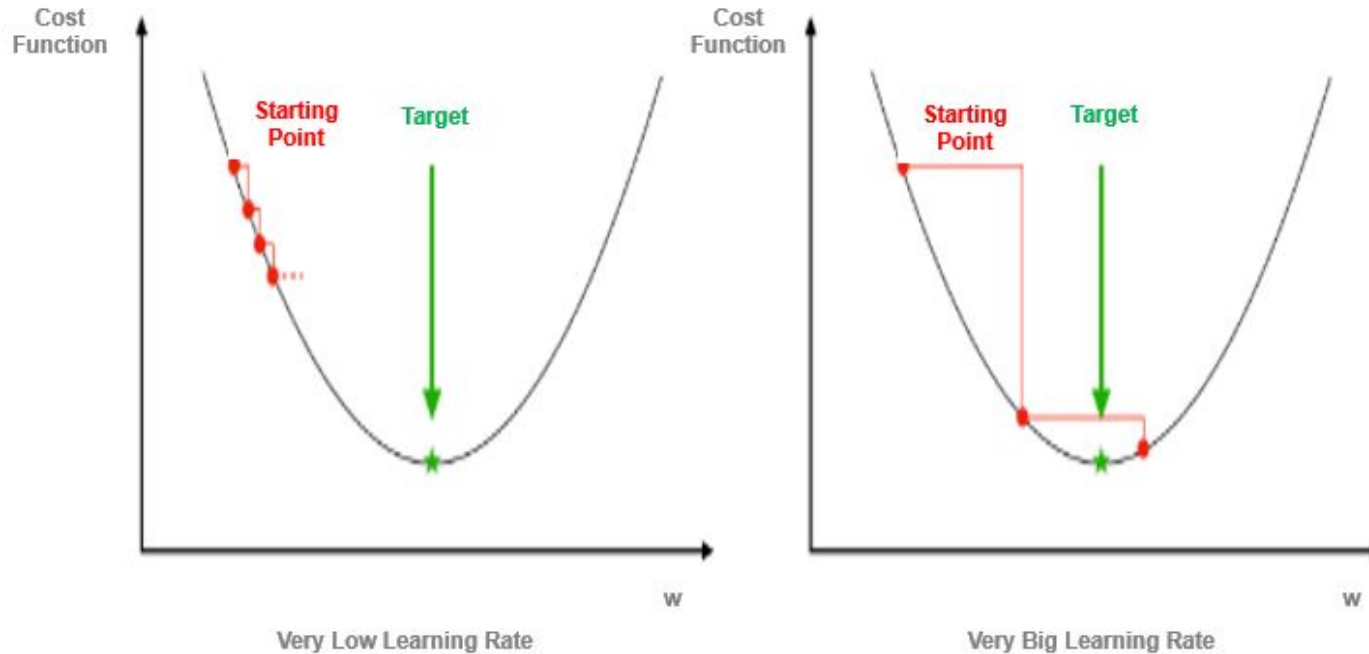
Cost Function (Reality Check)