CSC311: Lecture Notes

exekis

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Week 1

Midterm Concepts

- **Entropy and Information Gain**: We will definitely have ane example like this, he likes these, (one like the blue and red example on the slides).

- **Gradient Descent Update Rule**: We will have a question like this, where we are given a function and we need to find the update rule for the gradient descent.

$$\mathbf{w}_{t+1} = \mathbf{w}_t - \alpha \nabla J(\mathbf{w}_t) \tag{1}$$

- **Update Rule for Linear Regression**: We will have a question like this, where we are given a function and we need to find the update rule for the linear regression.

$$\theta_{t+1} = \theta_t - \alpha \nabla J(\theta_t) \tag{2}$$

- **Weight Decay**: We will have a question like this, where we are given a function and we need to find the update rule for the weight decay.

$$\mathbf{w} = 1 - \alpha\lambda\mathbf{w} - \alpha\nabla J(\mathbf{w}) \tag{3}$$