

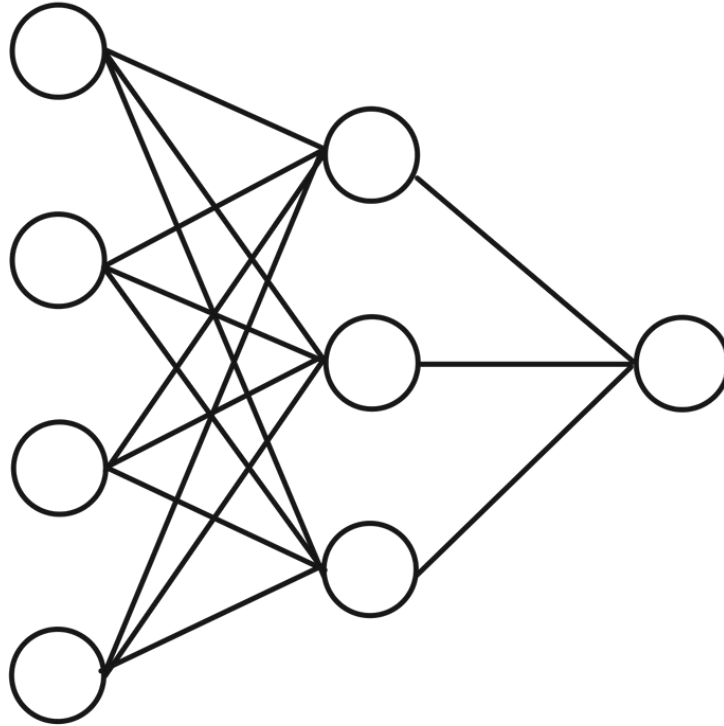


Intro to Neural Networks

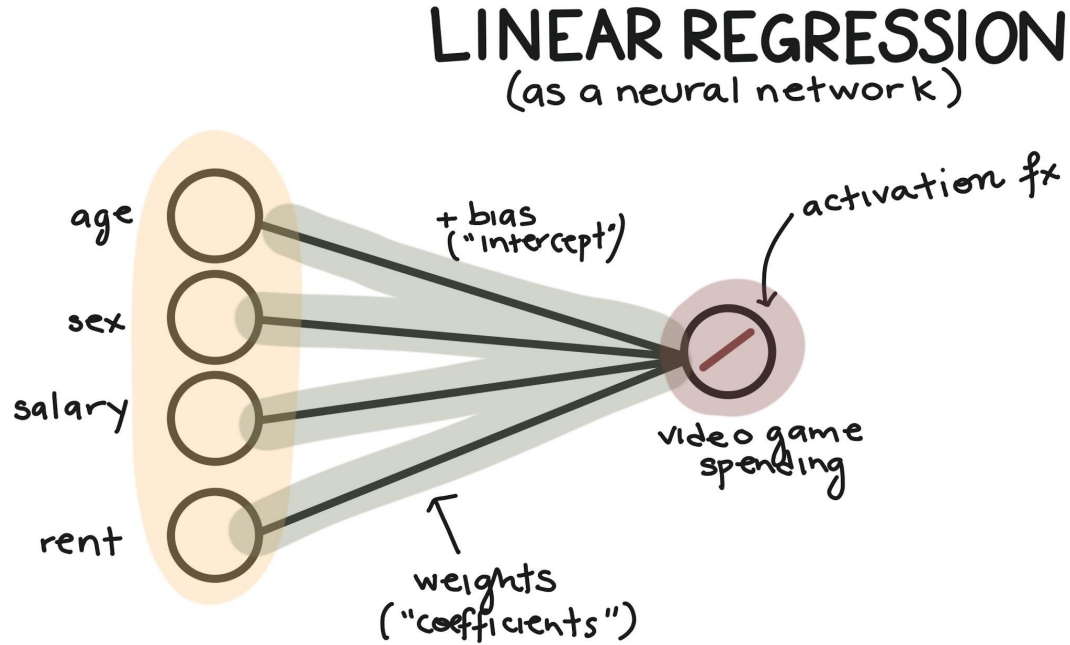
Chelsea Parlett-Pelleriti



Neural Networks



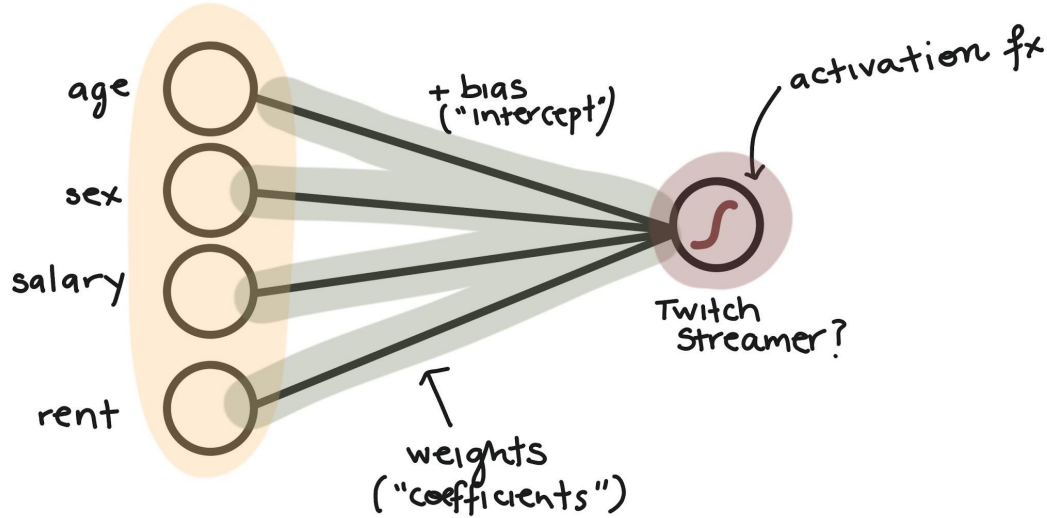
Linear Regression as a NN



$$\text{LOSS: } \sum (x_i - \hat{x})^2$$

Logistic Regression as a NN

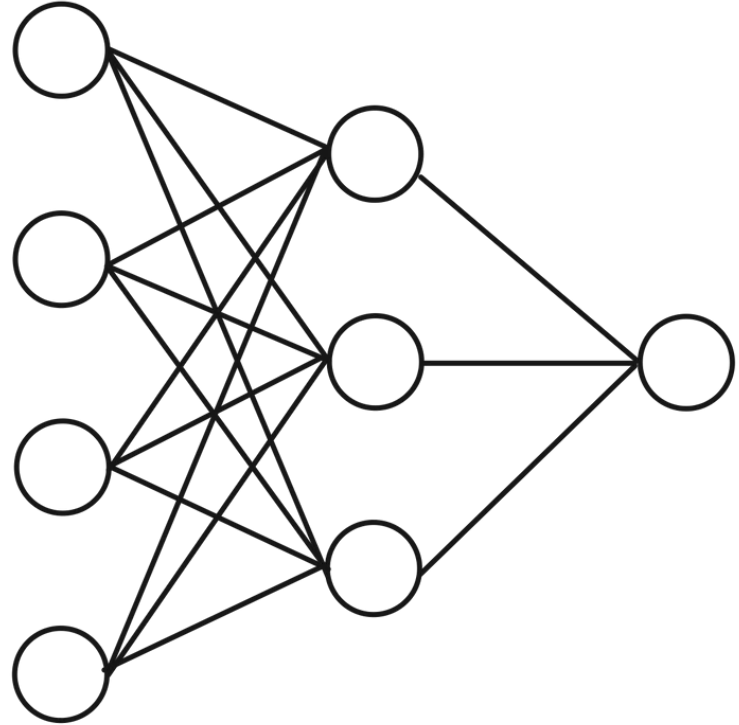
LOGISTIC REGRESSION (as a neural network)



$$\text{Loss: } \sum -y_i \log(\hat{p}_i) - (1-y_i) \log(1-\hat{p}_i)$$

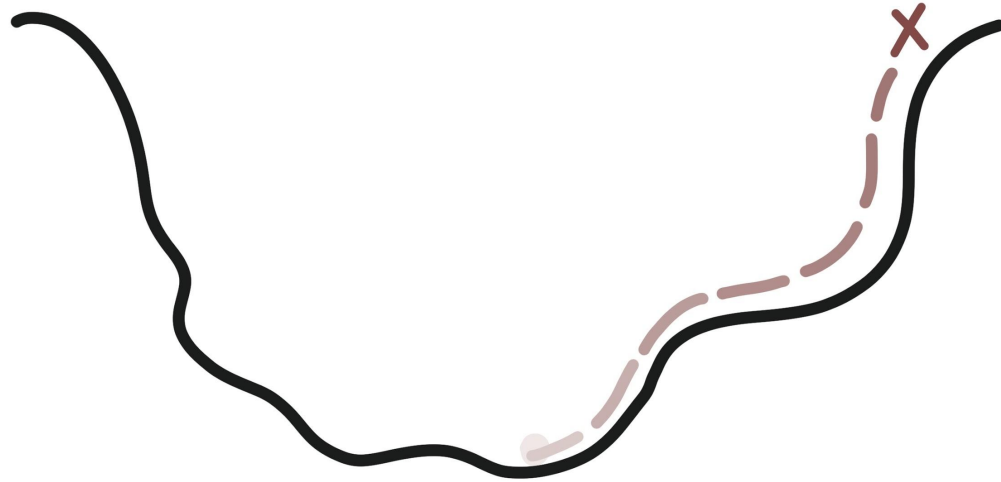
Building a FF NN Structure

1. Structure
2. Connections
3. Activations



Backpropagation/Gradient Descent

1. Which direction goes down the most?
2. Take a step in that direction.
3. Repeat until you get somewhere flat.



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LOSS FUNCTION