The ML/DL –

* Introduction
  + 12% acceptation rate
  + 47% females
  + Video from Microsoft
    - Computer Vision API
    - App that helps people with vision problems by describing their surroundings
* What is ML?
  + Field of AI where a system finds patterns in order to make predictions
  + ML Algorithms give you the patterns in the data
  + “ML is the “Art of Seeking Information and Meaning from Data””
* Applications of ML
  + Facebook face recognition
  + “Similar products” recommendations
  + Self-driving cars
  + Language translation
  + Image recognition
  + DL is a subset of ML which is a subset of AI
* Deep learning
  + Inspired by the human brain
* Types of ML systems
  + Supervised ML
  + Unsupervised ML
  + Deep Learning
  + Reinforcement learning
* Supervised ML
  + Receives labels
  + Divided in regression and classification
  + Feed the answers together with all other data and the algorithm will figure out a relationship between them
  + Regression predicts future quantities
* Unsupervised
  + Don’t know what we want to find
  + No labels
* DL
  + Neural networks
* Reinforcement
  + Reward system
  + Trial and error
* What are features?
  + Data labels (sorta)
* Weights & bias
  + Weight -> control the strength of the connection between 2 neurons
  + Bias -> additional input into the next layer that will always have the value of 1
* Regression
  + Find the relationship between variables
  + As simple as a line or as complicated as many variables
  + Linear regression
    - XW1 +1W2 = Y
    - Loss Function
      * Determine how well a function is performing
      * Formula:
    - Gradient Descent
      * Optimizing the values of the coefficients by iteratively minimizing the loss of the model
    - Multiple regression
      * Multiple variables
* Code review
* Assignment 01
  + Word doc