**Forum: https://community.deeplearning.ai/top?period=weekly**

**Week 1**

**Learning objectives**

* Define machine learning
* Define supervised learning
* Define unsupervised learning
* Write and run Python code in Jupyter Notebooks
* Define a regression model
* Implement and visualize a cost function
* Implement a gradient descent
* Optimize a regression model using gradient descent

**Overview of Machine Learning**

* Subfield of AI
* Artificial General Intelligence (AGI) - AI dream – machines as intelligent as humans
  + Overhyped and a long way away from it
  + Researchers believe learning algorithms is best way to get to this goal
* State of AI in 2020 - Study by McKenzie
  + AI/ML $13t in value annually by 2030
* Vast unfulfilled demand for this skillset

**Supervised vs. Unsupervised Machine Learning**

* Field of study that gives computers the ability to learn without being explicitly programmed.
  + Arthur Samule (1959)
* Two main types of ML
  + Supervised learning
    - Used most in real-world applications
    - Seen most rapid advancements
    - Course 1, 2
  + Unsupervised learning
    - Course 3
    - + recommender systems and reinforcement learning