Quick Refresher for ML
Mini Case Study: Selecting the Right ML Approach

Time Required: 20 minutes

Learning Objectives

By the end of this exercise, you will be able to:

- Analyze a business problem, identify the goal, and evaluate the type of machine learning approach required.
- Justify the choice of supervised, unsupervised, or reinforcement learning based on problem requirements and data availability.

Instructions

1. Form groups of 3-4 participants.
2. Read the business scenario provided below.

3. As a group, discuss the following:

   ○ What is the primary goal of the machine learning system?

   ○ What type of data would be required to solve this problem?

   ○ Which machine learning approach (supervised, unsupervised, reinforcement) is most appropriate? Why?

4. Prepare to present your recommendation and reasoning to the class.

Business Scenario

Improving Customer Retention at a Subscription-Based Streaming Service

- Your recommended ML approach (supervised, unsupervised, or reinforcement).

- A brief justification for your choice.

- Examples of the types of data that would be critical for this model to work.

Extension (if you have time, answer these questions)

- How would your approach change if the goal was to **segment customers for marketing** instead?

- Could a reinforcement learning approach be useful for adjusting discounts and offers based on customer responses over time?

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