# Project 4- Take Notes

### 1. Define the problem and objective

Clearly state the problem you're trying to solve with your machine learning project. **A movie viewer is continuously scrolling through movies to view. This can be discouraging to a viewer and possibly cause membership cancellation if they are not able to find movies of interest at a reasonable amount of time (5-10 mins).** Identify the objective you want to achieve, whether it's improving accuracy, optimizing processes, or making predictions. **The objective is to construct a movie recommendation system that predicts movies to watch based on viewers past history. Content based filtering suggest similar items based on a particular item. This system uses item metadata, such as genre, ratings, director, description, actors, etc. for movies, to make these recommendations. The general idea behind this recommender system is that if a person liked a particular item, he or she will also like an item that is similar to it.**

### 2. Gather and analyze data

Collect relevant data that will be used for your machine learning project. This can include structured data, unstructured data, or even data from external sources. Clean and preprocess the data to ensure its quality and suitability for your project.

Use the Table view in ClickUp to organize and analyze your data, and create custom fields to track data quality and preprocessing steps.

<https://www.kaggle.com/datasets/nicoletacilibiu/movies-and-ratings-for-recommendation-system?select=ratings.csv>

<https://www.kaggle.com/code/nicoletacilibiu/movies-recommendation-system>

<https://www.kaggle.com/code/nicoletacilibiu/movies-recommendation-system/notebook>

### 3. Select the appropriate machine learning algorithm

Based on the problem and objective, choose the most suitable machine learning algorithm for your project. Consider factors such as the type of data, the desired outcome, and the available resources.

### 4. Design the model architecture

Define the architecture of your machine learning model, including the layers, nodes, and connections. Decide on the input and output layers, as well as any hidden layers, activation functions, and optimization algorithms.

### 5. Train and evaluate the model

Train your machine learning model using the collected and preprocessed data. Split the data into training and testing sets, and use appropriate evaluation metrics to assess the model's performance.

### 6. Create a project timeline and budget

Develop a timeline that outlines the various stages of your machine learning project, including data collection, model development, training, and evaluation.

<https://clickup.com/templates/project-proposal/machine-learning>

## <https://www.kaggle.com/code/ibtesama/getting-started-with-a-movie-recommendation-system>

<https://www.kaggle.com/code/prashant111/recommender-systems-in-python>

* [Recommender systems](https://en.wikipedia.org/wiki/Recommender_system) are one of the most popular data science applications today.
* A recommender system is a data science application that is used to predict or offer products to customers based on their past purchase or browsing history.
* They are used by Amazon for product recommendations, YouTube for video recommendations, Netflix and IMDB for movie recommendations and Facebook for friend recommendations.