**Portfolio Milestone Option 1**

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Classification is a machine learning technique that involves grouping a set of items into predefined categories based on their characteristics (Pazzani & Billsus, 2007). In a TV show recommendation system, a classification algorithm could analyze the viewing habits and preferences of users, such as which shows they watch, how often the watch them, and how they rate them. With this data, the algorithm could categorize users into distinct groups. This information could then be used to make personalized recommendations to each user based on their classified group. The recommendation system could also consider other factors such as the genre of a show, the cast, the ratings, and reviews, to provide more personalized recommendations. The more data that the system has about the viewing habits of the user, the more accurate the recommendations will be. Overall, by utilizing classification, a TV show recommendation system can improve its ability to make personalized recommendations to users based on their viewing preferences.

**Reference**

Pazzani, M. J., & Billsus, D. (2007). Content-based recommendation systems. *The Adaptive Web*, *4321*, 325–341. https://doi.org/10.1007/978-3-540-72079-9\_10