My thought is based on the Frequency of Genre

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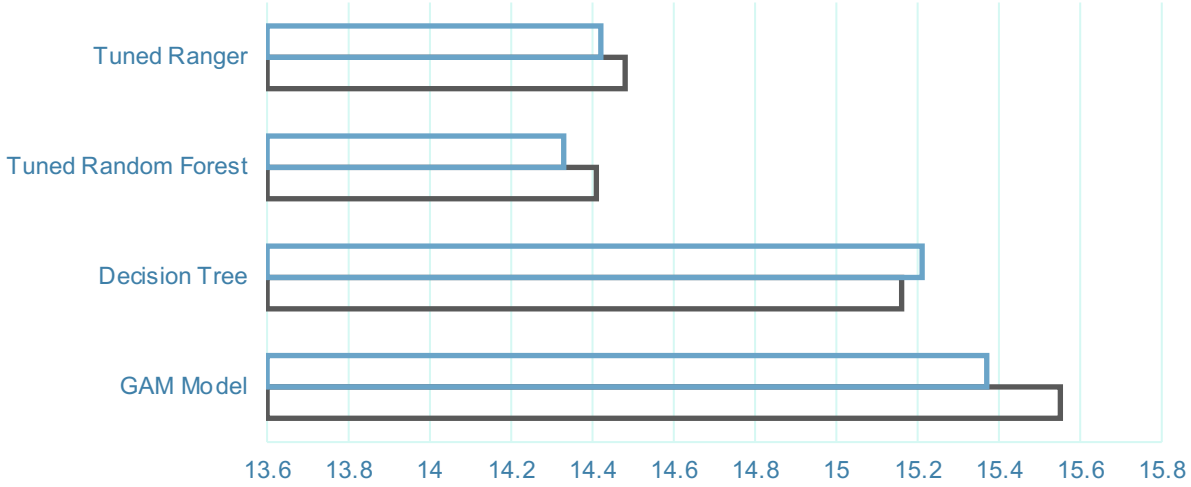

	GAM Model	Decision Tree	Tuned Random Forest	Tuned Ranger
RMSE in Kaggle	15.37	15.21	14.33	14.42
RMSE in test	15.55	15.16	14.41	14.48

My best model: **Random Forest Model** with tuned **mtry = 73**, **ntree = 1000**, and **count frequency** to create the top 700 genre types as dummy variables. The **Kaggle RMSE** is **14.3359**.

Methods

Feature selection:

1. Extracting unique genres as a list
2. Count the Frequency of the list
3. Based on the list to create dummies

Model:

1. GAM model by adding smoothing term
2. Decision Tree
3. Random Forest with tuned
4. Random Forest with Ranger tuned

Conclusion:

In this project, the key is dealing with genre variable, and the **random forest model** is a powerful method for handling such **high-dimensional data**.

Improvement:

Find a better way to select genre types, not all the genres contribute useful information to the model.