

# Movie ratings project report

**By Ilya Letnik**

## **Introduction:**

The goal of the project is to create a movie recommendation system that uses machine learning algorithm. The training data used for the analysis is a subset of a larger movie ratings dataset. The key steps to achieve the goal were: Create the dataset, the test and validation sets, create the basic algorithm, adjust the parameters according to data until RMSE is sufficiently low.

## **Method**

1. The subset database was created by taking relevant columns from 2 data files, the validation set will consist of 10% of the data.
2. Account for movie effect (because some movies are rated generally higher) by considering average movie rating in the model
3. Account for user effect (i.e. some users rate all movies high) by considering average user rating in the model

## **Results**

It was found that using this method design the RMSE could be lowered to the desired level of  $RMSE \leq 0.87750$

```
## [1] "The RMSE for the build model is:"
```

```
## [1] 0.8653488
```

## **Conclusion**

It is possible to design a good movie rating prediction system using a relatively simple machine learning algorithm as shown here.