# Can you predict the movie’s genre based off of a movie poster better than a Machine Learning Model?

Movie poster represent first impression many of us have with a film. It needs to catch audience’s attention and try and drive folks into movie theater seats. Moreover, with how much production companies spend on marketing, about half of the movie’s budget, production companies typically want to go with tried and true methods when designing their poster. This fact is what a lot of movie posters to feel the similar. The YouTube channel ‘Cheddar’ explores come of the common cliques that movie poster’s use in their video “*Why All Movie Posters Look the Same - Cheddar Explains*”. This was an interesting idea to me, if posters can convey story, themes and genre at a glance; would you be able to use Deep Machine Learning to train a model to predict a movies genre based off of sole a movie poster?

## How Does the Model Work?

The type of model that I used for this problem is referred to as a CNN (not the broadcaster). If you are interested in this type of model, I am going to link to you to a nonpremium medium article at the bottom of this article. This is a gross oversimplification on how the model works: <https://towardsdatascience.com/a-comprehensive-guide-to-convolutional-neural-networks-the-eli5-way-3bd2b1164a53>

A picture containing room

Description automatically generated

In the model’s “brain” is a network of nodes (neurons) that are connected by edges (neural pathways). The images of movie poster get broken down into paint-by-number renditions of themselves. Our model then looks through a magnifying glass and begins to learn the numbers associated with different parts of the poster. After it slides the magnifying glass across the entire image the model makes a guess as to which genre(es) it believes the film belongs to. If it guesses correctly then those neural pathways strengthen and if it is incorrect it strengthens other neural pathways. This process is repeated for thousands of movie posters examples until the model becomes confident in its ability to predict the movie genre of a movie poster.

## The Movie Poster Dilemma

In the Youtube channel Cheddar’s Video *Why All Movie Posters Look the Same - Cheddar Explains* they discuss the clichés of Romantic Comedies movies put the two lead stars’ back-to-back to signal to the audience about the impending conflict between the main character and their love interest. Well people have been conditioned to recognize this movie poster style as a romcom that is only half the problem. Movie genre can be a little more nuance than that for example:

A person with collar shirt

Description automatically generated

Given these two posters have their lead stars standing back-to-back the majority of people would correctly guess these movies are romcoms. However, *No Reservations* is considered a romcomdram while *How to Lose A Guy in 10 Days* is only considered a romcom. The movie posters do not always convey the genre of a film at first glance and a viewing of the film maybe required to understand why one movie is considered a drama and the other is not.

## Putting the Model to the Test