University of Toronto
Faculty of Applied Science and Engineering
MIE368 - Analytics in Action
Abstract - Team 17

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Abstract

The film industry is one of many others involving substantial financial investments like production costs and marketing expenses. Thus, it is crucial for industry stakeholders such as distributors and studios to know what factors are relevant for determining whether a proposed movie concept would be successful before going forward with production. This study aims to first generate values for actors and directors within different categories, namely genre, creative type, production method, source material, ratings, and distributors. Then for an upcoming movie with these categories defined, an optimal cast and director is determined. Via model stacking, the result of this optimization is then used to predict the box office revenue of a movie fitting of the aforementioned properties with the optimized cast and director. All data relevant to movies, actors, directors, etc. was collected from "The Numbers" film database via the employment of heavy web scraping. Early results of the model are inclined towards the engineered features highlighting statistical significance to the prediction of box office revenue, thereby grounding the proposed model and optimization as reliable and its results harboring some value. Through this, the model can be utilized by various distributors in forecasting the success and profitability of a given conceptual movie.