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Predicting the Product Life Cycle of Songs on Radio - How Record Labels Can Manage Product Portfolio and Prioritise Artists by Using Machine Learning Techniques

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Abstract : This research strives to predict the remaining product life cycle of a song on radio after it has been played for one or two months. The best results were achieved using a k-d tree to calculate the most similar songs to the test songs and use a Random Forest model to forecast radio plays. An 82.78% and 83.44% accuracy is achieved for the two time periods, respectively. This explorative research leads to over 4500 test metrics to find the best combination of models and pre-processing techniques. Other algorithms tested are KNN, MLP and CNN. The features only consist of daily radio plays and use no musical features.

Keywords : hit song science, product life cycle, machine learning, radio
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