Customer Churn - Abstract Ideas

Friday, June 19, 2020 6:56 AM

CUSTOMER CHURN PREDICTION – A PILOT PROJECT PERSPECTIVE

Conference Paper (PDF Available) · June 2017 *with* 1,201 Reads

Conference: THE 8th PSU-UNS INTERNATIONAL CONFERENCE ON ENGINEERING AND TECHNOLOGY (ICET-2017), At Novi Sad

Cite this publication


Milan Mirkovic
11.62 · University of Novi Sad


Andras Anderla
12.68 · University of Novi Sad


Darko Stefanović
13.26 · University of Novi Sad

+ 1


Dubravko Culibrk

Show more authors

Abstract

Customer churn modeling has received a lot of attention lately, as there are indications that a large share of corporate profit comes from the existing customer base. Businesses are therefore very interested in identifying customers who are likely to churn and often undertake Data Mining projects to help them with that. In this paper we explore some of the pitfalls that have been identified in relevant literature as likely to be encountered during different phases of such a project and provide recommendations on how to succeed with a pilot in this domain.

https://www.researchgate.net/publication/317596757_CUSTOMER_CHURN_PREDICTION_-_A_PILOT_PROJECT_PERSPECTIVE

A review and analysis of churn prediction methods for customer retention in telecom industries

Publisher: IEEE Cite This PDF

2 Author(s) Ammara Ahmed ; D. Maheswari Linen **All Authors**

3 Paper Citations

955 Full Text Views

Abstract:

Customer churn prediction has gathered greater interest in business especially in telecommunications industries. Many authors have presented different versions of the churn prediction models greatly based on the data mining concepts employing the machine learning and meta-heuristic algorithms. This aim of this paper is to study some of the most important churn prediction techniques developed over the recent years. The primary objective is on the churn in telecom industries to accurately estimate the customer survival

and customer hazard functions to gain the complete knowledge of churn over the customer tenure. Another objective is the identification of the customers who are at the blink of churn and approximating the time they will churn. This paper focuses on analyzing the churn prediction techniques to identify the churn behavior and validate the reasons for customer churn. This paper summarizes the churn prediction techniques in order to have a deeper understanding of the customer churn and it shows that most accurate churn prediction is given by the hybrid models rather than single algorithms so that telecom industries become aware of the needs of high risk customers and enhance their services to overturn the churn decision.

Published in: 2017 4th International Conference on Advanced Computing and Communication Systems (ICACCS)

https://ieeexplore.ieee.org/abstract/document/8014605

Deep Learning in Customer Churn Prediction: Unsupervised Feature Learning on Abstract Company Independent Feature Vectors

Philip Spanoudes, Thomson Nguyen
Framed Data Inc, New York University, and the Data Science Institute at Lancaster University
philip@framed.io, thomson.nguyen@cs.nyu.edu

***Abstract*—As companies increase their efforts in retaining customers, being able to predict accurately ahead of time, whether a customer will churn in the foreseeable future is an extremely powerful tool for any marketing team. The paper describes in depth the application of Deep Learning in the problem of churn prediction. Using abstract feature vectors, that can generated on any subscription based company's user event logs, the paper proves that through the use of the intrinsic property of Deep Neural Networks (learning secondary features in an unsupervised manner), the complete pipeline can be applied to any subscription based company with extremely good churn predictive performance. Furthermore the research documented in the paper was performed for Framed Data (a company that sells churn prediction as a service for other companies) in conjunction with the Data Science Institute at Lancaster University, UK. This paper is the intellectual property of Framed Data.**

***Index Terms*—Churn Prediction, Deep Learning, Neural Networks, Feed Forward, Spark, HDFS**

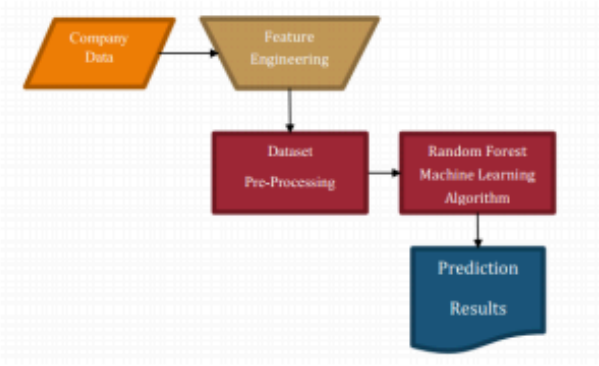

Fig. 1. Machine Learning Pipeline at Framed

https://arxiv.org/pdf/1703.03869.pdf

Customer churn prediction in telecommunication industry using data certainty

Adnan Amin [a], Feras Al-Obeidat [b], Babar Shah [b], Awais Adnan [a], Jonathan Loo [c], Sajid Anwar [a]

Show more

https://doi.org/10.1016/j.jbusres.2018.03.003

Abstract

Customer Churn Prediction (CCP) is a challenging activity for decision makers and machine learning community because most of the time, churn and non-churn customers have resembling features. From different experiments on customer churn and related data, it can be seen that a classifier shows different accuracy levels for different zones of a dataset. In such situations, a correlation can easily be observed in the level of classifier's accuracy and certainty of its prediction. If a mechanism can be defined to estimate the classifier's certainty for different zones within the data, then the expected classifier's accuracy can be estimated even before the classification. In this paper, a novel CCP approach is presented based on the above concept of classifier's certainty estimation using distance factor. The dataset is grouped into different zones based on the distance factor which are then divided into two categories as; (i) data with high certainty, and (ii) data with low certainty, for predicting customers exhibiting Churn and Non-churn behavior. Using different state-of-the-art evaluation measures (e.g., accuracy, f-measure, precision and recall) on different publicly available the Telecommunication Industry (TCI) datasets show that (i) the distance factor is strongly co-related with the certainty of the classifier, and (ii) the classifier obtained high accuracy in the zone with greater distance factor's value (i.e., customer churn and non-churn with high certainty) than those placed in the zone with smaller distance factor's value (i.e., customer churn and non-churn with low certainty).

https://www.sciencedirect.com/science/article/abs/pii/S0148296318301231

Not an abstract but a really good article that outlines what topics could be used for a decision tree model
https://neilpatel.com/blog/improve-by-predicting-churn/