Literature Survey for Corporate Employee Attrition Analytics

Literature Survey - 1

Title : From Big Data to Deep Data to Support People Analytics for Employee Attrition Prediction

Year : 2021

Ricardo Colomo-Palacios et al. proposed that the main goal of this research is to help HR managers to detect as soon as possible an employee's intention to leave using predictive analytics methods and so to fight this attrition. The contributions can be summarized into three points:

i) The proposal of a new employee attrition model that contains only 11 features necessary and sufficient to detect intention to leave and to predict positive attrition using a mixed research methodology.

ii) The proposal of machine, deep and ensemble learning predictive models and their experimentation in a variety of different settings (large-sized simulated dataset, medium sized simulated dataset and small-sized real dataset) to best assess their performance.

iii) The interpretation and the explication that enables HR managers to understand what makes an employee want to leave and to help them in adopting key policies to retention.The algorithms used are Machine learning based predictive model, deep learning based predictive model, ensemble learning based predictive model.

Literature Survey - 2

Title : Towards Understanding Employee Attrition using a Decision Tree Approach

Year : 2019

Saadat M Alhashmi proposed the idea to contribute in the field of employee attrition; Overall results were promising. The model developed in this project helped us to understand the problem better as information alone is not enough. Once we know, we can suggest solutions to the problem.Finally, we can see how employee attrition is a severe problem that affects all organisations no matter what their size is, so it is imperative for employers to understand the cause behind attrition and the factors that impact employees decisions. In order to make better-informed decisions, corporations can no longer rely on management experience; they must have hard evidence information based on valid data.

Literature Survey - 3

Title : Early Prediction of Employee Attrition using Data Mining Techniques

Year : 2018

Sandeep Yadav et al proposed that the study implementation of various classification method helps in predicting whether a particular employee might leave the organization in the near future by deriving trends in the employee's past data. It was intuited that salary or other financial aspect like promotions are not the sole reasons behind the attrition of employees. These models can help us in prioritizing the features with higher impact in attrition of an employee and the possible reasons behind it so that HR can take appropriate decision for the retention process. The main purpose of this research is to build reliable and accurate models which can optimize the hiring and retention cost of quality employees. This could be done by determining the attrition status of employee under consideration by using the appropriate data mining techniques.

Literature Survey - 4

Title : Predicting Employee attrition using machine learning

Year : 2018

Kashif Rajpoot et al. proposed this study of growing interest in machine learning among business leaders and decision makers demands the researchers to explore its use within business organisations. One of the major issues facing business leaders within companies is the loss of talented employees. This research studies employee attrition using machine learning models.The dataset comprises synthetic data created by IBM data scientists.The dataset contains the HR-related data of 1470 employees with 32 features. Moreover, total of 1233 active employees were from "No" attrition category whereas the remaining 237 former employees were from "Yes" attrition category.Three main experiments were conducted to predict employee attrition.The first experiment involved training the original class imbalanced dataset with the machine learning models such as support vector machine (SVM) random forest and Knearest neighbour(KNN).The second experiment focused on using adaptive synthetic (ADASYN) approach to overcome class imbalance, then retraining on the new dataset.The third experiment involved using manual undersampling of the data to balance between classes.As a result, training an ADASYN balanced dataset with KNN achieved the highest performance.

Literature Survey - 5

Title : Comparison of machine learning techniques to predict the attrition rate of the employees

Year : 2018

Rohit Hebbar A et al. proposed to study the reason for employee attrition results from resigning from their post, retirement, illness, or demise. Considering these issues, the project aims to find the employees who are most likely to attrite from the organization using pre-processing techniques such as exploratory data Analysis (EDA), feature selection techniques and utilizing various machine learning techniques such as Logistic Regression, Support Vector Machine (SVM) and Random Forest.Here Attrition data set provided by IBM from Kaggle is used. The data set contains 2941 records with 34 features.Logistic Regression is first implemented to estimate the probability that an individual will fall into one outcome group or the other.To proceed with comparative study implement the common classification techniques such as Random Forest and SVM. Furthermore, we performed EDA to determine the main characteristics of the data set through visual representations using various graphs and plots. Random Forest is giving good and consistent performance across both training and validation data.

Similar Product Specifications

1) Leena AI Virtual Assistant:

Leena AI Virtual Assistant is built for enterprises to provide an exceptional employee experience. It decreases turnaround time for resolving employee issues. It buys more time for the employee facing teams to focus on critical areas. It resolves all employee requests using a single virtual assistant. It has workflow builder that creates journeys using drag and drop. It can ensure complete collaboration and automates the entire employee journey. It uses AI-powered employee engagement solution and get real-time insights to take corrective action immediately. It unifies all employee touchpoints, interactions and information to build long-term personalized employee relationships. Some of their giant clients are Gulf Coca-Cola Beverages, Globe Telecom, UHA Health Insurance, Icertis, Coca-Cola Vietnam and AirAsia. Mentionable advantages are enterprise-ready, easy integrations, multilingual, quick time to value, real-time analytics, multi-tiered security and natural language processing.

2) Empuls:

Companies listen to their employees, resolve their concerns, and engage them with Empuls so they are happy, motivated, and stay longer. It is a multi-dimensional approach to reducing employee churn. It gives an in-depth understanding of why employees leave and take swift action using data-backed insights. It can reduce frontline employee attrition with frequent recognition and delightful rewards. It delivers an integrated digital workplace experience. It supports integrations with Microsoft Teams, Slack, Google Workspace SSO, Freshteam and BambooHR. A holistic employee engagement strategy is an intersection of these six dimensions. They are communication, empowerment, motivation, wellbeing, alignment and mastery. Empuls' features - social intranet, engagement and lifecycle surveys, values and goals-based recognition, and delightful rewards enable a multi-dimensional approach to fixing disengagement. Empuls eliminates the hassles of investing in and managing multiple solutions to drive people initiatives that drastically cut down complexity and costs and improve ROI. Empuls adheres to the highest standards of data security.