IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.67
Volume 5, Issue 2, February 2025

Predicting Work-Life Satisfaction Based on Behavioral and Work Patterns using Machine Learning

Mr. Deep Darji
Student, Department of MSc. IT
Nagindas Khandwala College, Mumbai, Maharashtra, India
deepdarji425@gmail.com

Abstract: *Work-life satisfaction is crucial for maintaining overall well-being and productivity. This study aims to identify key predictors influencing work-life satisfaction based on behavioral and work patterns. Two main objectives are pursued: (1) analyzing the most influential factors among work experience, sleep patterns, and personal activities in determining high or low work-life satisfaction and (2) identifying key predictors using regression models. Classification techniques such as Random Forest, Support Vector Machines, XGBoost, and CatBoost were used to classify work-life satisfaction levels. Regression models including Decision Tree, Random Forest, and XGBoost were applied to predict satisfaction scores. The results highlight that sleep patterns and personal activities significantly influence work-life satisfaction, with Random Forest yielding the highest classification accuracy. The regression models demonstrated strong predictive power, confirming the importance of behavioral patterns in predicting work-life satisfaction.*

Keywords: Work-Life Satisfaction, Behavioral Patterns, Employee Well-Being, Machine Learning, Classification Models, Regression Analysis, Work Experience, Sleep Patterns, Personal Activities, Predictive Analytics