

A Project Abstract

on

**PREDICTION OF SMARTPHONE ADDICTION
USING MACHINE LEARNING**

Submitted in partial fulfillment of the requirements

for the award of the degree of

BACHELOR OF TECHNOLOGY

in

COMPUTER SCIENCE & ENGINEERING (DATA SCIENCE)

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**(Affiliated to JNTUA, accredited by NAAC with 'A' Grade, Approved by AICTE &
Accredited by NBA (EEE, ECE & CSE))**

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2024 – 2025

ABSTRACT

Smartphone addiction has become a global concern, significantly impacting people's daily lives, productivity, and mental health. With the increasing reliance on mobile devices, especially among students and professionals, understanding and predicting smartphone addiction has become crucial. This study proposes a machine learning model to predict smartphone addiction based on various behavioral and demographic factors. A dataset comprising responses from 500 individuals was analyzed to identify key indicators of smartphone dependency. Both existing machine learning algorithms like Support Vector Classifier (SVC) and Naive Bayes (NB) were evaluated alongside proposed models, including AdaBoost, XGBoost, Decision Trees, and Stacking Classifiers. The study employed binary classification, where individuals were classified as either "Addicted" or "Not Addicted." Our model aims to identify critical behavioral patterns, such as phone usage in social settings, phone reliance during awkward moments, and phone-checking habits in private spaces. The results demonstrate the effectiveness of the proposed models, particularly XGBoost and Stacking Classifiers, in achieving higher prediction accuracy compared to traditional approaches. This research has significant implications for developing interventions to curb smartphone addiction, providing actionable insights for policymakers, educators, and mental health professionals. It could also be used by app developers to design apps that are less addictive and promote healthier phone use habits.

KEYWORDS: Support Vector Classifier, Naive Bayes, Decision Trees, XGBoost.

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