

A Comparative Study of Supervised Learning Algorithms to Predict Potential Drug Abuse
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Did you know that more than half of the American population who abused prescription opioids were also alcoholics? An important priority in confronting the drug abuse epidemic is prevention. In this study, we explored a variety of supervised machine learning methods and their applicability to the problem of identifying users at-risk of drug abuse. We used a dataset consisting of approximately 2,000 individuals who provided information about their substance use via an anonymous online survey. We represented each individual using demographic information, psychological test scores, and drug-use history including both illegal as well as prescribed medication in a numeric feature-vector format. We trained several supervised learning algorithms on the dataset and the resulting prediction models were able to achieve nearly 80% accuracy in identifying at-risk drug users. Our results show that these approaches are suitable for finding complex interactions in datasets and can cater to a user's unique background and drug history, thus having the potential to help implement more effective narcotic prevention and rehabilitation programs, ultimately contributing to advancements in confronting the opioid crisis.