MENTAL HEALTH IN TECH

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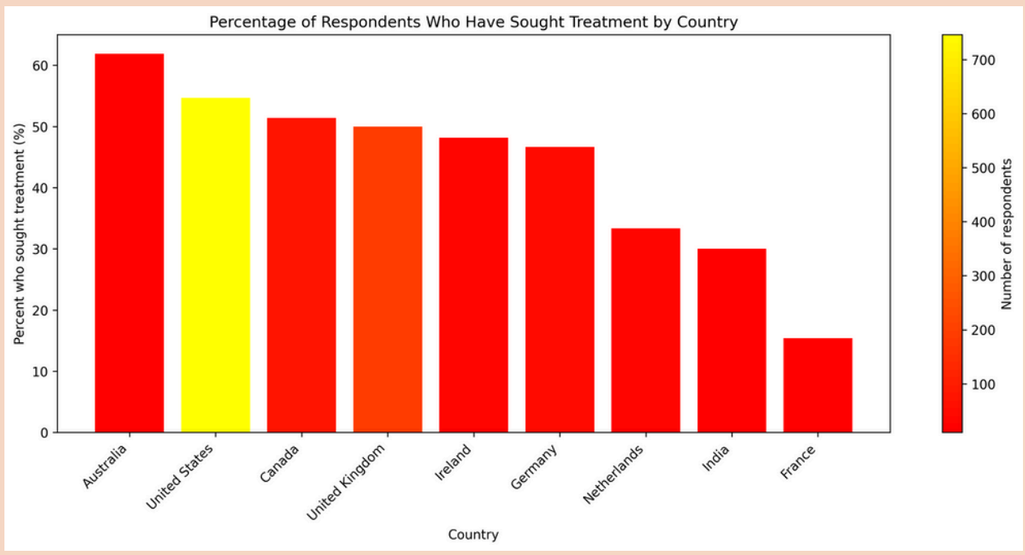
Introduction

The fast-paced nature of the IT workplace often contributes to high levels of stress and burnout among employees. Recognizing the importance of mental health, our project leverages survey data from the “OSMI Mental Health in Tech Survey” to predict whether an individual is likely to seek mental health support. By building a predictive model, we aim to provide early insights that can reduce stress and promote employee well-being. This approach combines the power of data-driven analysis with a proactive focus on mental health in the tech industry.



Data processing

1260 people answered the survey, there were 27 questions. Since we had the results of a survey, we removed columns that we deemed unnecessary like Timestamp, comments, state. Standardized the values for gender, removed outliers and converted Yes/No columns to binary format, along with Ordinal variables that were mapped to numeric scales. Missing data or values were replaced with mode. This resulted in a clean dataset, that was suitable for machine learning.

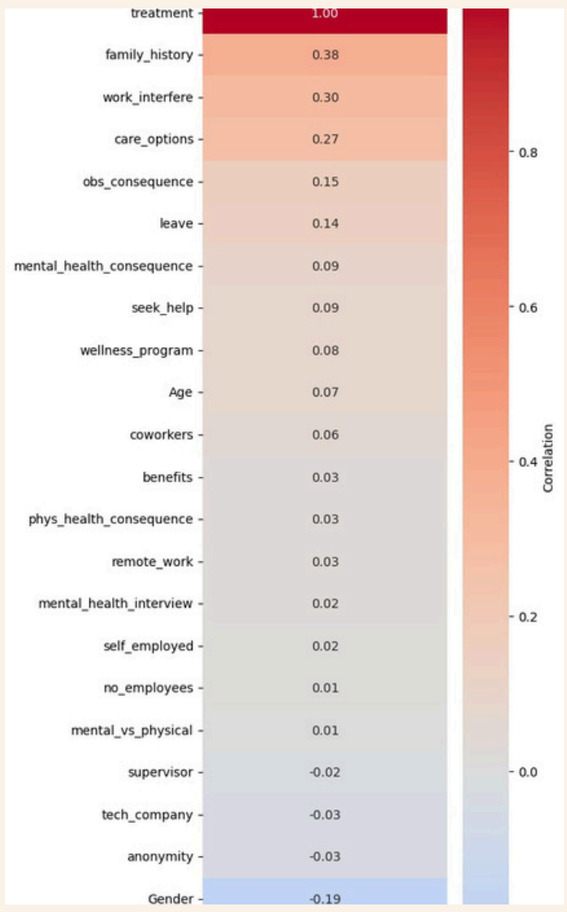
We evaluated several machine learning models Linear Regression, SVC, Decision Tree, KNN, and Random Forest. To predict whether IT employees are likely to seek mental health support. Among these, Random Forest achieved the best performance, with:

- Accuracy: 79.7%
- ROC-AUC: 0.83
- F1-score: 0.80

The confusion matrix and classification metrics show that the model performs well across both classes, correctly identifying the majority of individuals who would seek help. These results show that using data and machine learning can help workplaces identify employees who may need mental health support, so they can take action early and improve overall well-being.

Fun facts

- Although most respondents were from the United States, they still had one of the highest rates of seeking treatment among all countries.
- Median and mean ages were higher in treatment seaking respondents(32 and 32,6) then non treatment seaking respondents (31 and 31,5)



- While among male respondents age had a positive correlation with treatment seeking, among female respondents the correlation was slightly negative. This means that more younger women were seeking treatment for mental health problems, whereas for men in this survey it was the other way around.

Conclusions

Analysis of the survey data revealed key factors associated with seeking mental health support. The top features influencing treatment-seeking behavior included: care options, anonymity, family history of mental illness, supervisor support, and workplace benefits. Association rule mining highlighted some common patterns:

- Employees with access to care options and a family history were more likely to seek treatment.
- Anonymity and supportive supervisors slightly decreased the likelihood of seeking help, which wasn’t excpected.
- Access to workplace benefits often accompanied treatment-seeking behavior.

These findings suggest that being aware of family history, company offered mental health resources and supportive policies can encourage employees to seek help when needed.