

Model Development Phase Template

Date	18 June 2025
Team ID	SWTID1749709635
Project Title	Mental Health Prediction
Maximum Marks	5 Marks

Feature Selection Report Template

In the forthcoming update, each feature will be accompanied by a brief description. Users will indicate whether it's selected or not, providing reasoning for their decision. This process will streamline decision-making and enhance transparency in feature selection.

Feature	Description	Selected (Yes/No)	Reasoning
Timestamp	Time of survey submission	No	Metadata; irrelevant for prediction; dropped during preprocessing.
Age	Age of the respondent (numerical)	Yes	Age is a continuous variable and an important predictor of mental health trends.
Gender	Gender identity of the respondent	Yes	Gender differences influence mental health experiences and likelihood of treatment.
Country	Country of residence	Yes	Cultural and national context can impact mental health awareness and treatment.

state	State for US only	No	Dropped in preprocessing; very sparse and not generalizable across countries.
self_employed	Self-employment status	No	Weak importance in predicting mental health treatment; possibly little variation in dataset.
family_history	Family history of mental illness	Yes	Strong correlation with likelihood of mental health conditions.
treatment	Whether respondent has sought treatment or not	Yes	This is the target variable, not a feature.
work_interference	How mental health interferes with work	Yes	Directly reflects the impact of mental health issues and influences help-seeking behavior.
no_employees	Company size	No	Low influence on individual mental health treatment decision.
remote_work	Whether respondent works remotely or not	No	Weak predictor; less relevant in isolation for treatment-seeking behavior.
tech_company	Whether the person works in a tech company	No	Not significantly predictive of treatment-seeking behavior in feature importance results.
benefits	Whether mental health benefits are provided by employer	Yes	Access to mental health benefits influences treatment decisions.

care_options	Availability of mental health care options	Yes	Important for understand ease of access, to treatment
wellness_program	Availability of wellness programs	No	Lower importance relative to other features; often overlaps with other benefits-related fields.
seek_help	Encouragement from employer to seek help	Yes	Positive correlation with likelihood of seeking treatment.
anonymity	Whether anonymity is provided when seeking mental health treatment	No	Moderate importance; excluded to simplify model based on lower relative contribution.
leave	Ease of taking medical leave	Yes	Indicates how supportive the environment is, influencing treatment-seeking.
mental_health_consequence	Perceived consequence of discussing mental health at work	Yes	Fear of consequence can discourage treatment; highly relevant feature.
physical_health_consequence	Perceived consequence of discussing physical health at work	No	Less predictive of mental health treatment compared to mental health consequences.
coworkers	Comfort discussing mental health	Yes	Support from coworkers can influence willingness to seek treatment.

	with coworkers		
supervisor	Comfort discussing mental health with supervisor	Yes	Supervisor support directly affects treatment decisions.
mental_health_interview	Willingness to discuss mental health in interview	No	Lower practical importance in treatment outcome prediction.
physical_health_interview	Willingness to discuss physical health in interview	No	Least relevant to the current task of predicting mental health treatment.
mental_vs_physical	Whether mental health is treated as seriously as physical health at workplace	Yes	Reflects organizational culture; strong influence on help-seeking behavior.
obs_consequence	Observed consequences of discussing mental health at workplace	Yes	Important in assessing perceived risk and stigma, thus predicting treatment behavior.
comments	Free text field for comments if any	No	Unstructured text not processed in current version; dropped from preprocessing.