

Mental Wellness in Workplace Prediction

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PROBLEM STATEMENT

The World Health Organization indicates that depression and anxiety, which affect 300 million people around the world, cost the global economy a vast **\$1 trillion** in lost productivity each year.

What signs should employers pay attention to?

DATA FEATURES

- Have you had a mental health disorder in the past?
- Is your primary role within your company related to tech/IT?
- **Do you currently have a mental health disorder?**
- Do you have a family history of mental illness?
- How many employees does your company or organization have?
- What is your age?
- What is your gender?

150+ features
2000+ participants



DATA CLEANING WITH SPARK

- Combine data from 2016-2019
- Replace null values and unreasonable answers with 'Other'
- Group the same answers together (i.e., make "female", "f" and "F", "Female")
- Dummy categorical features



FEATURE SELECTION

Feature	Feature Importance > 0.01
What is your age?	0.56
Have you had a mental health disorder in the past? (Yes)	0.50
Have you had a mental health disorder in the past? (Maybe)	0.02
Has being identified as a person with a mental health issue affected your career? (Yes, I think it would)	0.01
Would you be willing to bring up a physical health issue with a potential employer in an interview? (Yes)	0.01

MODELING

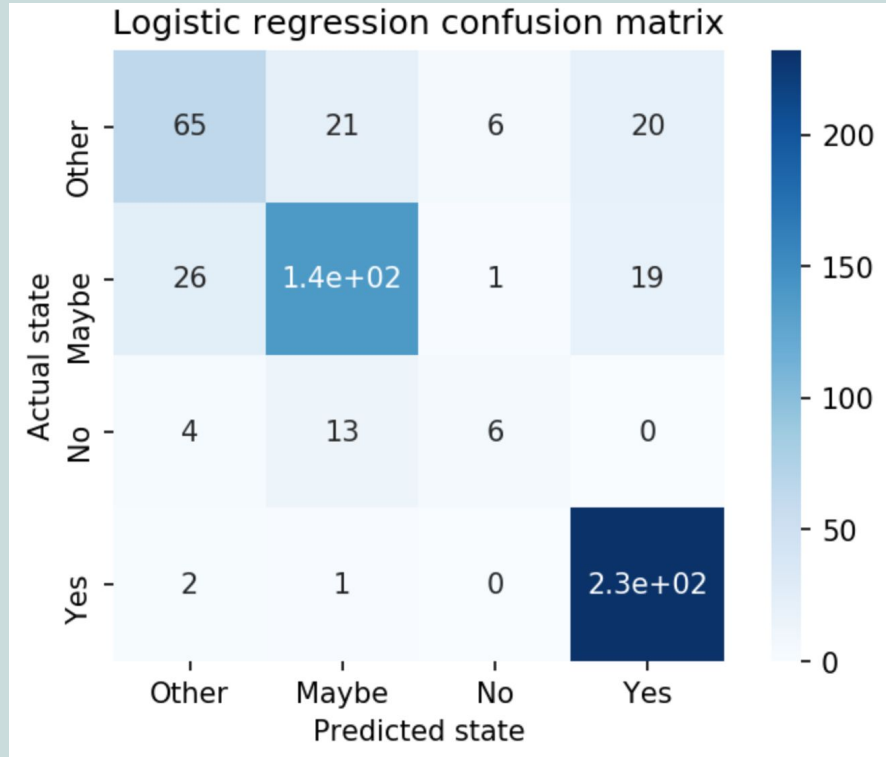
Model	XGBoost	SVC	AdaBoost	RandomForest	LGBM
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Model	XGBoost	SVC	LGBM
Train F-1 micro	0.75	0.76	0.75
Test F-1 micro	0.79	0.79	0.79

RESULTS (SVC)

Class	Recall
Other	58%
Maybe	75%
No	26%
Yes	98%



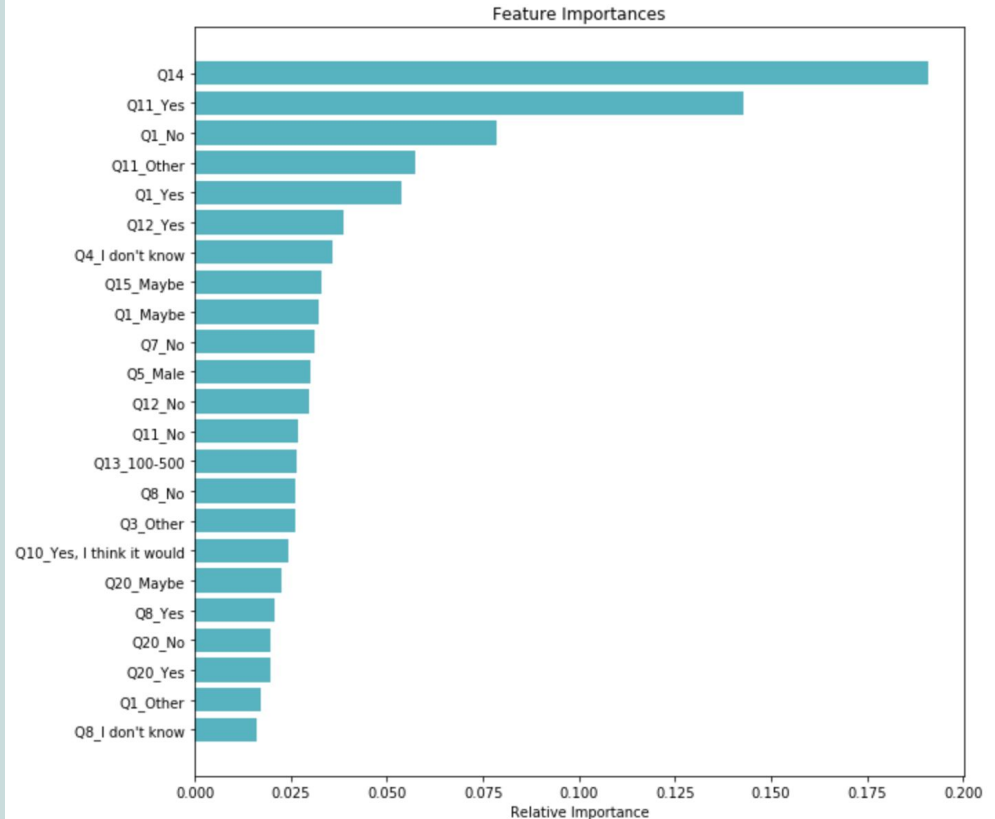
FEATURE IMPORTANCE

VERY important:

- **Q14** What is your age?
- **Q11** Have you ever been diagnosed with a mental health disorder? (Yes)

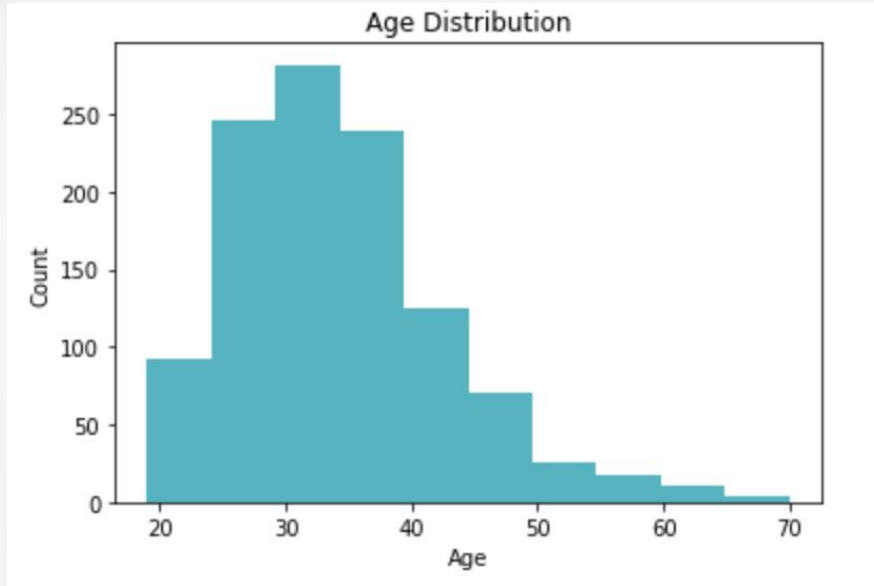
NOT important:

- **Q5** What is your gender?
- **Q21** Is your primary role within your company related to tech/IT?



DIVE INTO IMPORTANT FEATURES

Do you currently have a mental health disorder? 'Yes'



NEXT STEPS


- Pitch the model to HR
- Build a recommender system to suggest further help




CONNECT WITH ME



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