Business Intelligence Project

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Project Idea - 1

Machine Learning for Mental Health

Problem Statement

- Mental Health is a very important matter. The constant pressure on an employee in any industry will make more vulnerable to mental disorder
- Thus, early detection of symptoms is of paramount importance.
- Our main challenge is to timely identification of condition, given the stigma around mental conditions.

Data Set Description (1 of 2)

Source: https://osmihelp.org/research

Number of instances: 1259

Number of attributes: 27

Whether labeled or unlabeled: unlabeled

Data Set Description (2 of 2)

Timestamp: Time the survey was submitted

Age Respondent: Respondent age

Gender Respondent: gender

Country Respondent: country

State: you live in the United States, which state or territory do you live in?

Self_employed: Are you self-employed?

Family_history: Do you have a family history of mental illness?

Treatment: Have you sought treatment for a mental health condition?

work_interfereIf: you have a mental health condition, do you feel that it interferes with your work?

No_employees: How many employees does your company or organization have?

Remote_work: Do you work remotely (outside of an office) at least 50% of the time?

Tech_company: Is your employer primarily a tech company/organization?
Benefits: Does your employer provide mental health benefits?
Care_options: Do you know the options for mental health care your employer provides?
Wellness_program: Has your employer ever discussed mental health as part of an employee wellness program?
Seek_help: Does your employer provide resources to learn more about mental health issues and how to seek help?
Anonymity: Is your anonymity protected if you choose to take advantage of mental health or substance abuse treatment resources?
Leave: How easy is it for you to take medical leave for a mental health condition?
Mental_health_consequence: Do you think that discussing a mental health issue with your employer would have negative consequences?
Phys_health_consequence: Do you think that discussing a physical health issue with your employer would have negative consequences?
Coworkers: Would you be willing to discuss a mental health issue with your coworkers?
Supervisor: Would you be willing to discuss a mental health issue with your direct supervisor(s)?
Mental_health_interview: Would you bring up a mental health issue with a potential employer in an interview?
Phys_health_interview: Would you bring up a physical health issue with a potential employer in an interview?
Mental_vs_physical: Do you feel that your employer takes mental health as seriously as physical health?
Obs_consequence: Have you heard of or observed negative consequences for coworkers with mental health conditions in your workplace?
Comments: Any additional notes or comments

Prior works on the dataset

Prediction of Mental Disorder for employees in IT Industry, 2019

https://www.ijitee.org/wp-content/uploads/papers/v8i6s/F61340486S19.pdf

Project Idea - 2

Forest Fires Prediction

Problem Statement

- Fires have been major contributing factor in the loss of our forests and ecosystem worldwide and also affects human & animal lives and their habitat.

- Thus, early detection of forest fires is of paramount importance. But methods which give us accurate predictive results for the same are not available .

Data Set Description (1 of 2)

Source: http://archive.ics.uci.edu/ml/machine-learning-databases/forest-fires/

Number of instances: 517

Number of attributes: 13

Whether labeled or unlabeled: labeled

Type of label information (if present): Categorical

Data Set Description (2 of 2)

1. **month** - month of the year: 'jan' to 'dec'
2. **day** - day of the week: 'mon' to 'sun'
3. **FFMC** - FFMC index from the FWI system: 18.7 to 96.20
4. **DMC** - DMC index from the FWI system: 1.1 to 291.3
5. **DC** - DC index from the FWI system: 7.9 to 860.6
6. **X** -(Numeric) x-axis spatial coordinate within the Montesinho park map: 1 to 9
7. **Y** -(Numeric) y-axis spatial coordinate within the Montesinho park map: 2 to 9
8. **ISI** - ISI index from the FWI system: 0.0 to 56.10
9. **temp** - temperature in Celsius degrees: 2.2 to 33.30
10. **RH** - relative humidity in %: 15.0 to 100
11. **wind** - wind speed in km/h: 0.40 to 9.40
12. **rain** - outside rain in mm/m2 : 0.0 to 6.4
13. **area** - the burned area of the forest (in ha): 0.00 to 1090.84

Prior works on the dataset

Predicting Forest Fires using Supervised and Ensemble Machine Learning Algorithms,International Journal of Recent Technology and Engineering (IJRTE), July 2019