



Sleep Tracking

using ML

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NOVEMBER 27 2023

Sleep Tracking



1. Motivation
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50M

50 Million Americans have chronic sleep disorders

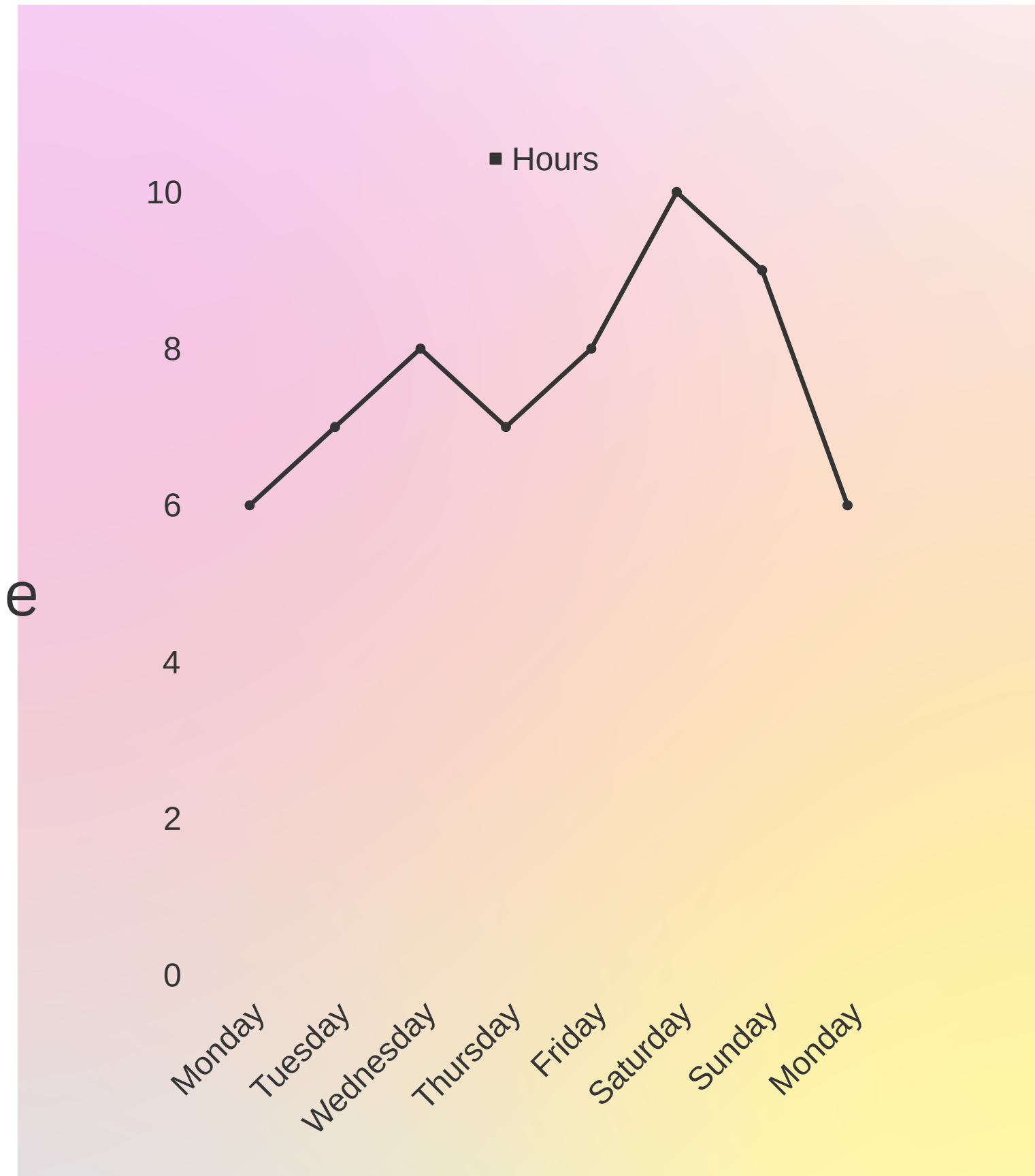
An estimated 35 percent of Americans report their sleep quality as “poor” or “only fair.”

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Techniques

1. Polysomnography (PSG)
2. Actigraphy
3. Heart Rate Variability (HRV)
4. Electroencephalography (EEG)

Time





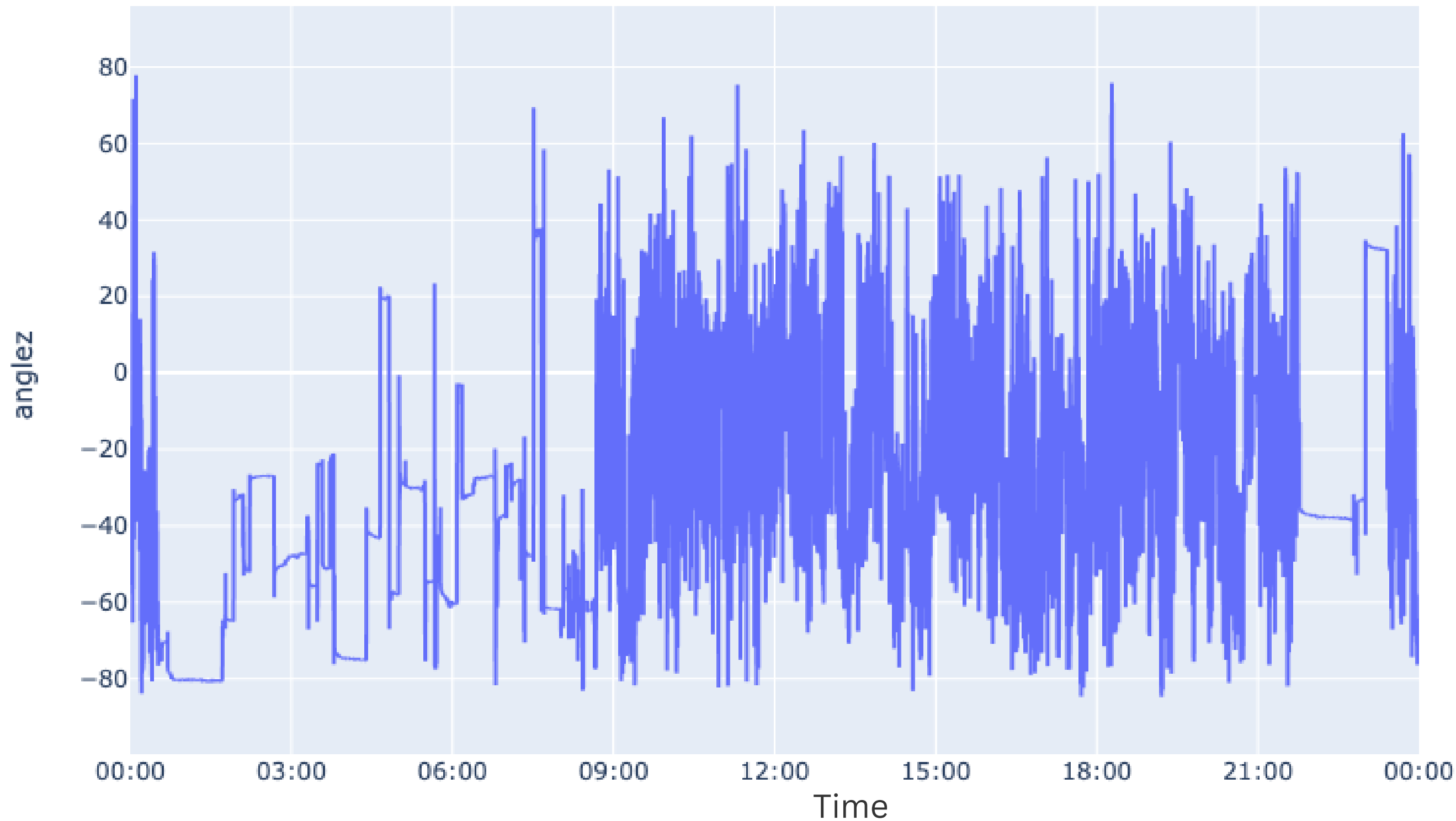
Dataset

Healthy brain network

13 Million data points

Time stamp	anglez	enmo	awake/sleep
2017-11-09T19:00:00	-5.5902	0.1751	0

EDA and Feature Engineering

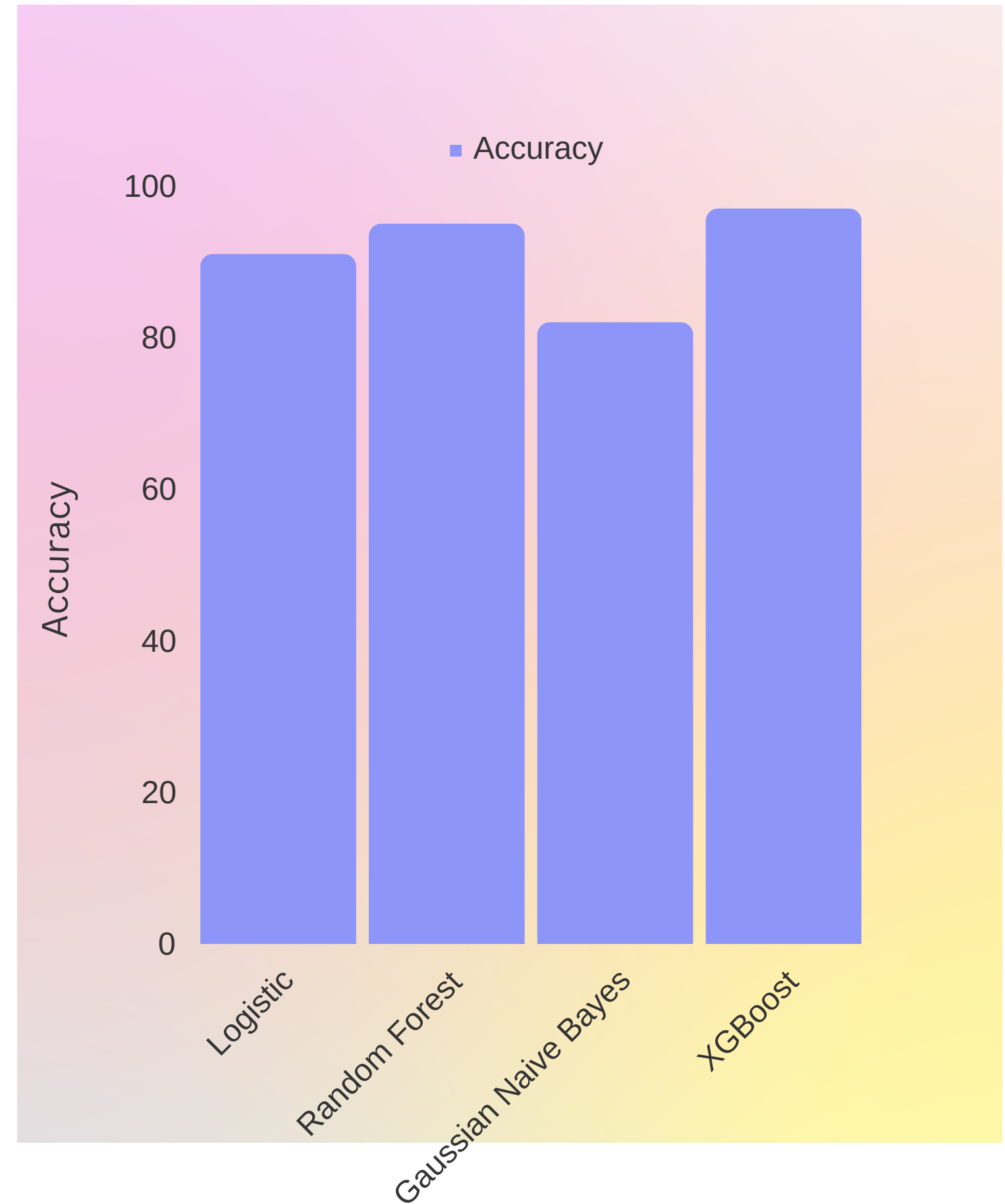


Feature Engineering

- Date Time Features
 - Hour, Weekday etc..
- Window statistics features
 - rolling mean, std, etc..




Modelling



Sleep Tracking Dashboard

Upload a CSV file

Built with Streamlit 

Fullscreen 

<https://sleepai.streamlit.app/>



Conclusion

- A system to track sleep.
- Importance of feature Engineering.
- Can improve the system to track sleeping stages.
- Different models i.e Neural Networks RNN, LSTM, etc..
- We can add different data sources.

Thank you!