Estimating Sleep Patterns Using Twitter Activity

Objective: Analyze Twitter like activity to estimate sleep windows over time.

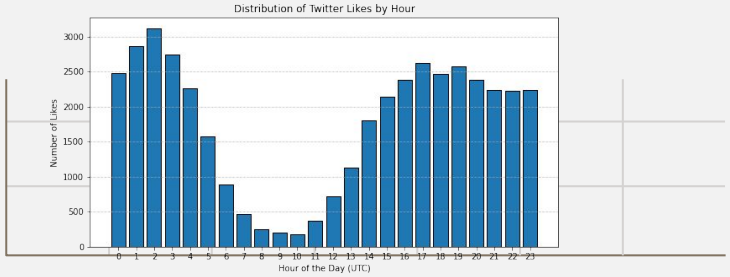
The Facts

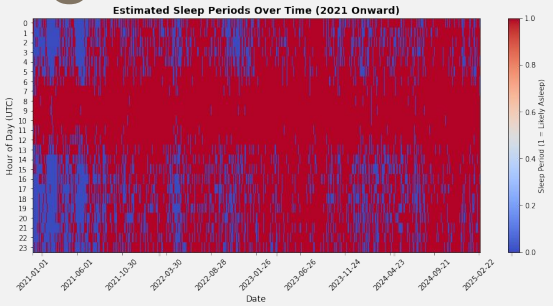
2 AM
Most Active Hour (UTC Time)

~ 9.4
Longest Detected Inactivity; aka Likely Sleep (Hours)

42,340
Likes Analyzed

~ 6.8
Estimated Average Sleep Duration (Hours)





Methodologies:

Extracted timestamps from Twitter like history.

Grouped data by hour to identify inactivity periods as proxies for sleep.

Generated visualizations, including an hourly activity distribution and a heatmap of estimated sleep periods.

Key Findings and Future Improvements:

Insights

Future Improvement #1
Integrate multiple data sources (browsing history, messaging).

Future Improvement #2
Validate with self-reported sleep logs or wearable device data.

Key Finding #1
Sleep onset typically between 11 PM - 3 AM UTC, wake-up between 6 AM - 10 AM UTC.

Key Finding #2
Sleep duration ranged from 4 to 10 hours, with occasional inconsistencies.

Key Finding #3
Digital activity data can provide reasonable sleep estimates but has limitations (e.g., social media bias).