



Using **Passive Behavioral Data** to Support Mental Health Monitoring

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Why Traditional Monitoring Is Limited?



VS

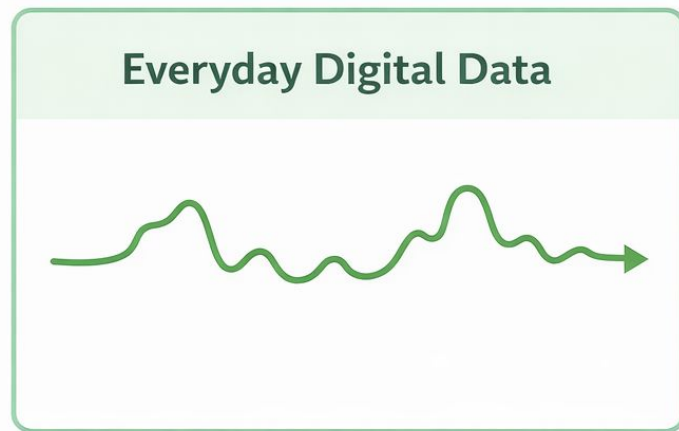


Image Source: ChatGPT

- Episodic
- Recall-based

- Continuous
- Behavior-based



What Is Passive Behavioral Data?



Image Source: ChatGPT

**Behavioral signals collected
without active surveys**

How Machine Learning Helps: Random Forest

- Many simple decisions
- Vote together
- More reliable



Random Forest Findings: Signals That Matter

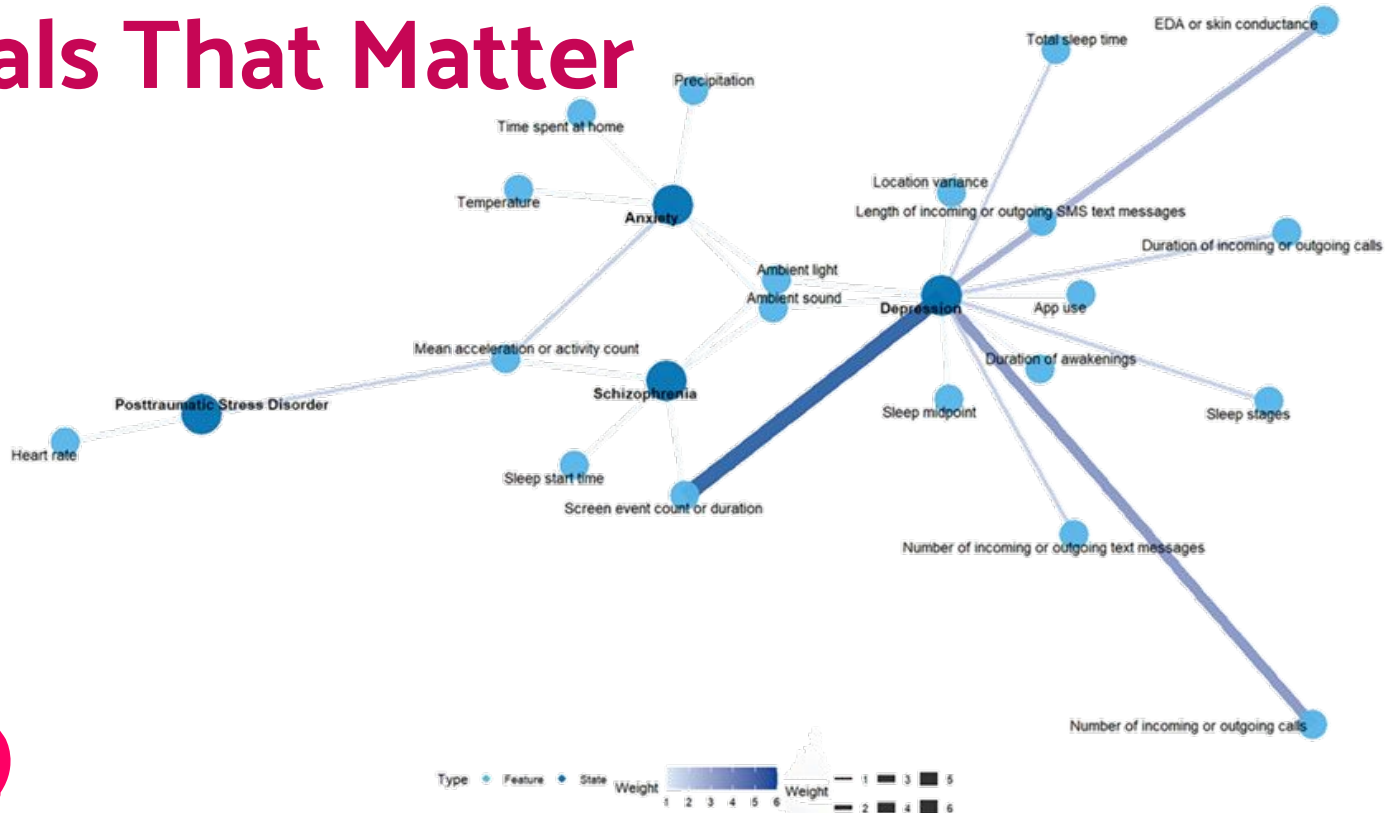


Figure adapted from *Shen et al. (2025), J Med Internet Res, 27:e77066.*

Pros & Cons



- Continuous
- Early Signals
- Support Clinicians



- Privacy
- Bias
- Over-interpreting

Wrapping Up

