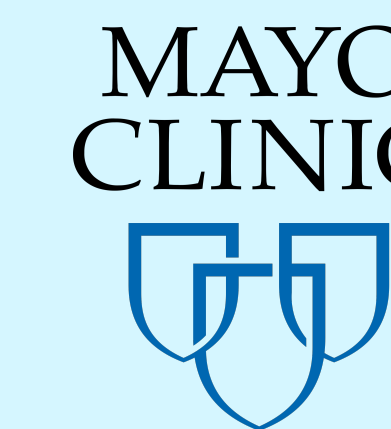


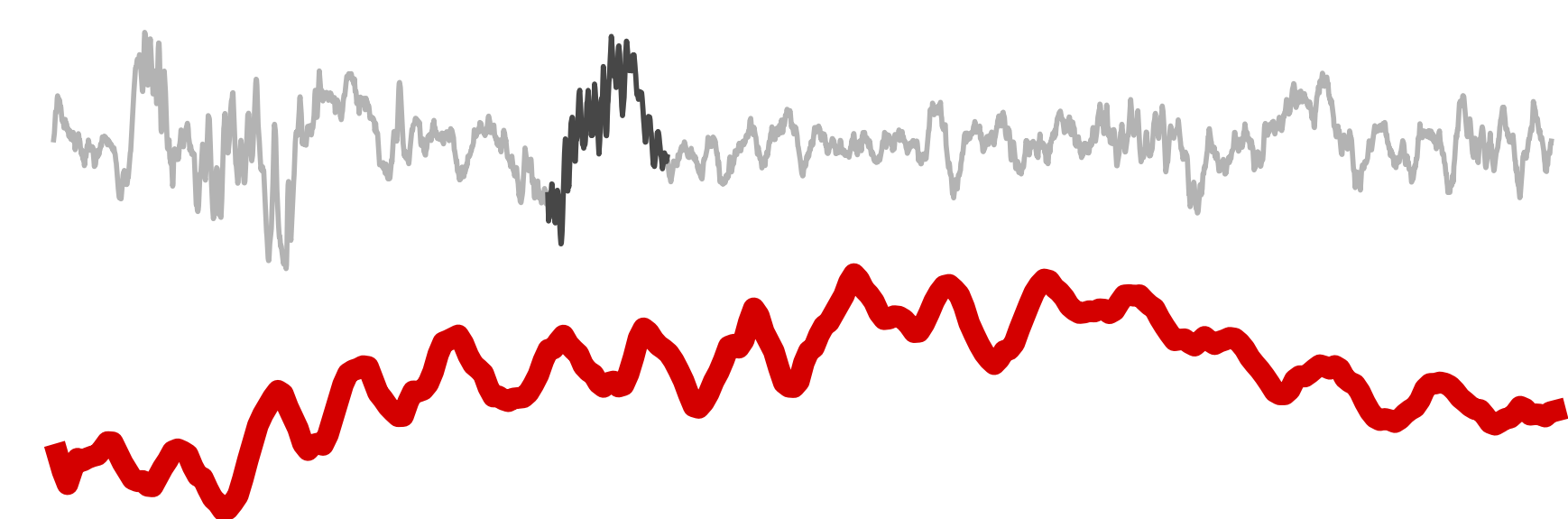
iEEG Sleep Spindle Detection



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Sleep Spindles



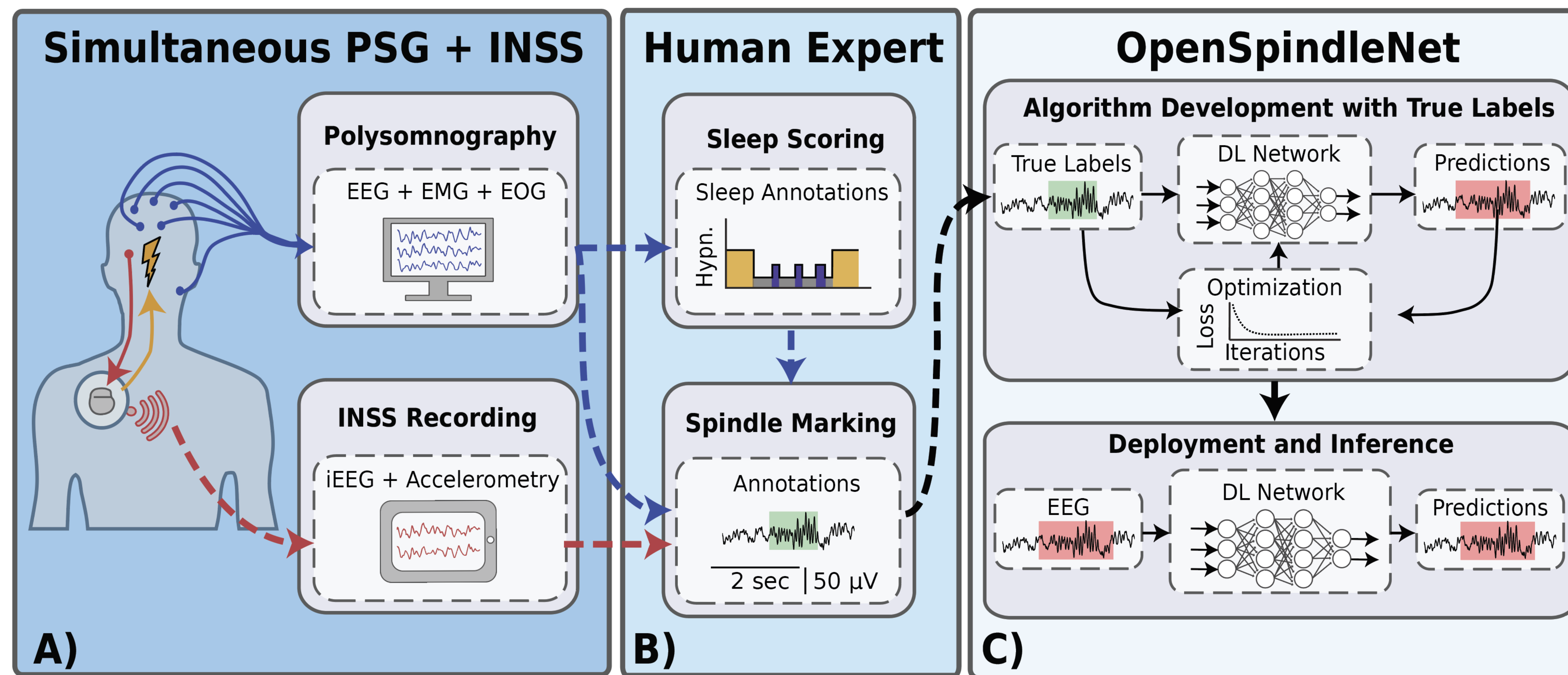
- memory consolidation
- sleep quality
- cognitive functions

Automatic detection

- brain health assessment
- sleep state physiology
- understanding disorders

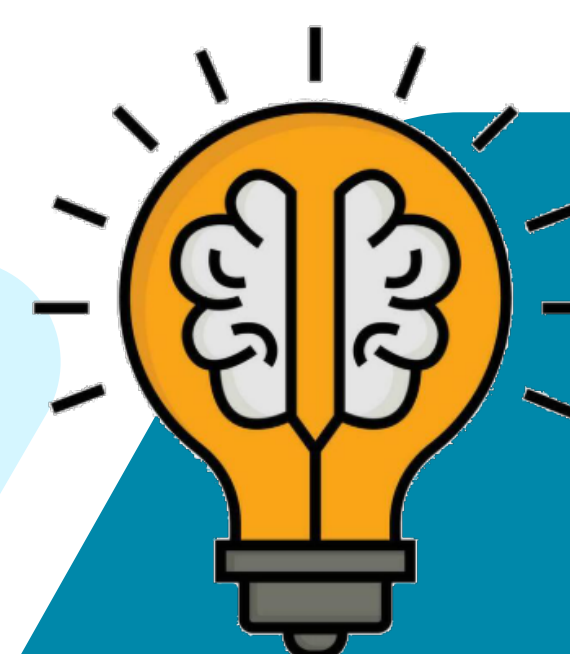
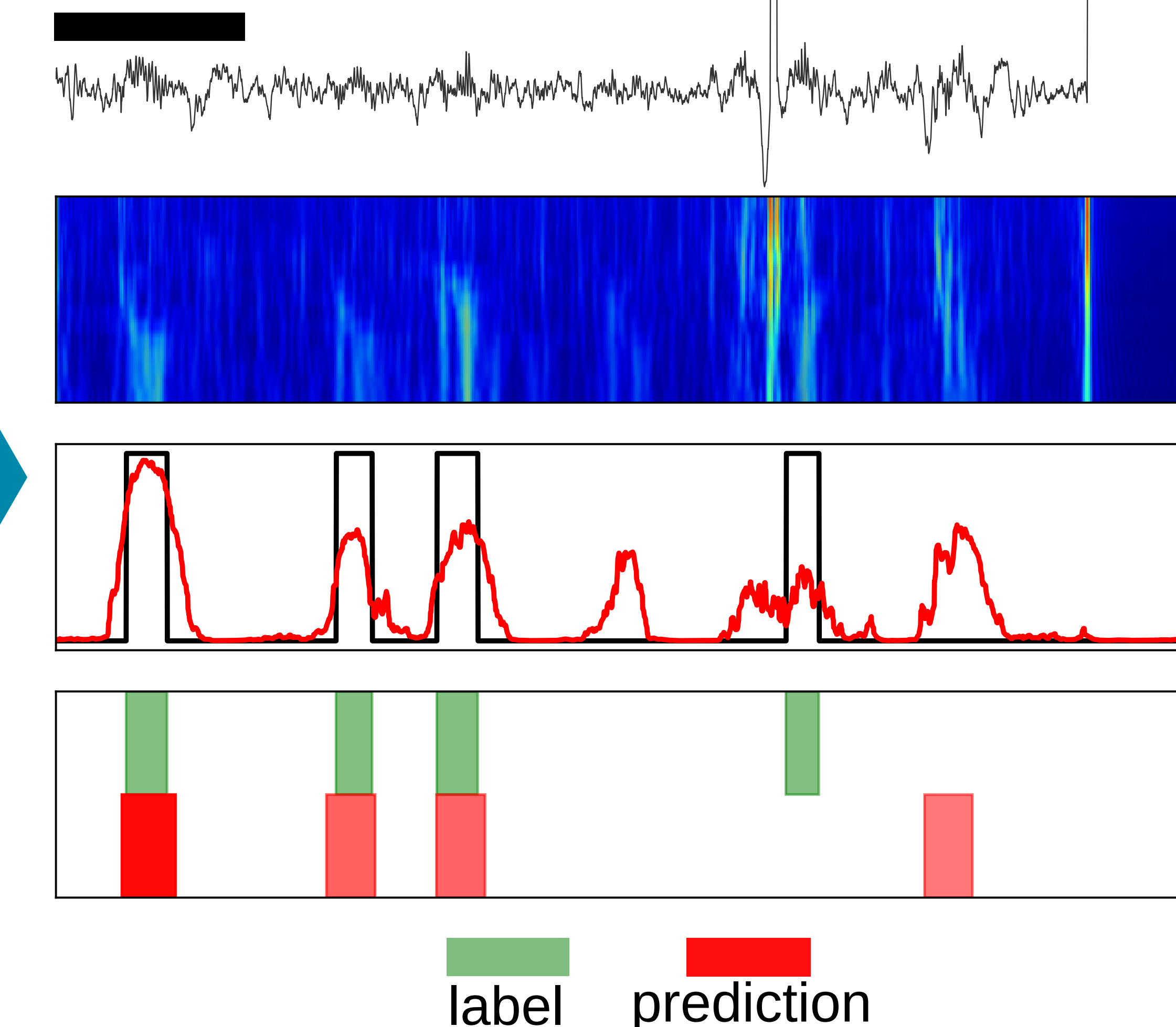


AI Methodology



Detections

5 seconds



Conclusion: We compared our method to various state-of-the-art methods on multiple datasets. Our approach provides a reliable and effective solution for spindle detection ($F1=0.67$), outperforming existing methods in key performance metrics.

Seják Michal, Mivalt Filip, Sladký Vladimír, Všianský Vit, Carvalho Diego Z., St. Louis Erik, Worrell Gregory, and Křemen Václav, OpenSpindleNet: An Open-Source Deep Learning Network for Reliable Sleep Spindle Detection, 2025