

# Machine Learning for Prediction and Signal Processing

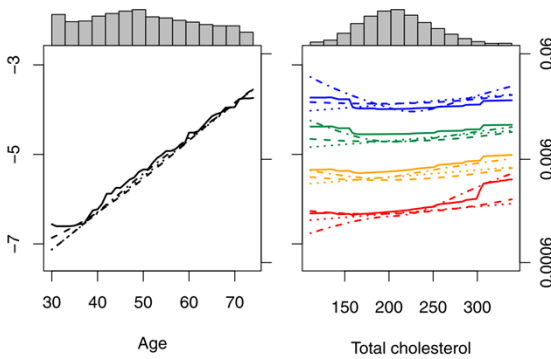
PI: Georg Dorffner

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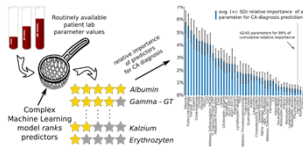
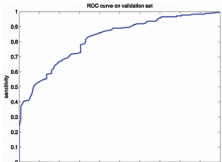
## The Research Group

Our focus is two-fold: (a) Classical machine learning applied to patient data to predict diseases or their outcomes, (b) Deep learning and other methods applied to signal processing, in particular to the interpretation of EEG and other electrophysiological signals, such as, for instance the automated scoring of polysomnograms in sleep medicine.

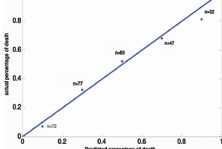
## Clinical Prediction Models



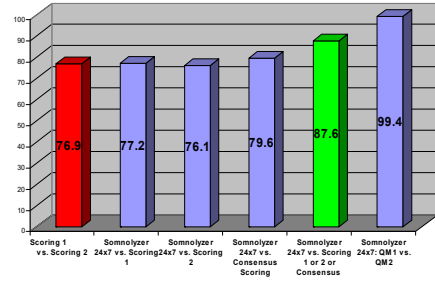
Cardiovascular Risk Prediction<sup>1</sup> Wallisch et al., BMC Med. Res. Tech., 2021



Agibetov et al., J. Clin. Med., 2020



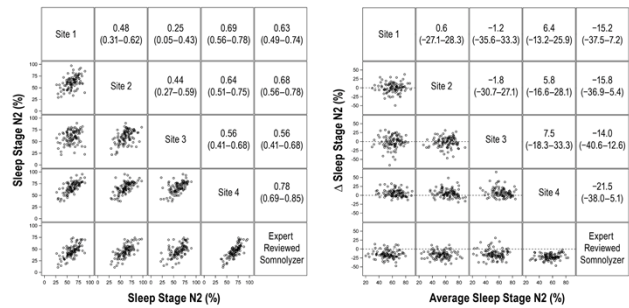
Aschauer S. et al., Resuscitation, 2014



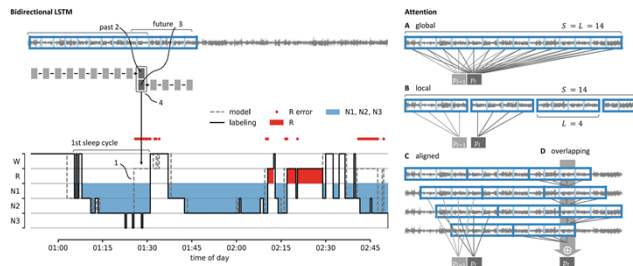
Anderer et al., Neuropsychobiology, 2010

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PHILIPS RESPIRONICS



Punjabi et al., Sleep, 2015



Brandmayr et al., Neural Networks, 2022

AASM American Academy of SLEEP MEDICINE



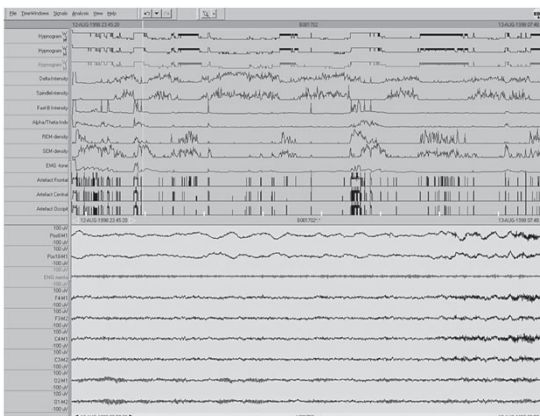
American Academy of Sleep Medicine announces first recipient of autoscoring software certification

DARIEN, IL – The American Academy of Sleep Medicine congratulates Philips RS North America LLC, which has earned stage-specific autoscoring software certification from the AASM. Its software, Sleepware G3 with Somnolyzer v4.0.2.0, is the first to be certified through the pilot program, which the AASM launched in 2023.

The AASM Autoscoring Certification program independently evaluates the real-world performance of autoscoring software that provides adult sleep stage scoring from the analysis of data gathered by polysomnography. This evaluation process uses private sleep study data scored by experts in the sleep field. Certification is a demonstration to accredited sleep facilities that the accuracy of an autoscoring solution is comparable to manual scoring by trained professionals.

"I congratulate Philips RS North America LLC for having the first software to be certified through the AASM Autoscoring Certification pilot program," said AASM Executive Director Steve Van Hout. "The American Academy of Sleep Medicine is committed to ensuring that technological advances support the provision of high-quality, patient-centered sleep care."

## EEG Signal Processing: Sleep Staging



## References

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