Sleep Apnea Detection & Analysis
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Research Program Overview
• **Motivation**: Untreated Obstructive Sleep Apnea (OSA) can result in complication in hypertension, diabetes, other health problems, and cognitive impairment. Current gold standard for OSA assessment is the overnight polysomnography (PSG) which is costly and limited in availability.
• **Aim**: Develop sound based wearable techniques for long duration monitoring of OSA
• **Clinician Partners**: National University Hospital, Singapore General Hospital
• **Research Grant**: S$0.5m (ASTAR)

Novelties
• Algorithms with tailored set of acoustic features cascaded and a robust signal classifier
• Wearable system for automatic and unassisted overnight recording
• Preliminary Results (26 patients in NUH sleep lab):
  • Sensitivity: 86%, and Specificity: 92%