

Industrial & Systems Engineering

Seminar Announcement

Adaptive Monitoring With Selective Sensing In Depression Treatment Population

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Abstract: 30 million Americans use antidepressant medicines, and its effectiveness relies on the appropriate follow-up monitoring. Personalized health surveillance is one critical enabler for realizing the adequate preventive care. While rapid advancing sensing and information technologies have result in an abundant of data, translating these data into personalized surveillance of depression is still challenge due to the lack of accurate individual risk prediction model and cost-effective sensing strategy for large scale population. To scale the personalized surveillance up, we design a decision support algorithm to create patient-specific adaptive monitoring schedules and dynamically identify patients with the highest risk of major depression in a treatment population. The algorithm integrates Markov chain modeling, prognosis, and optimization, which enables monitoring of a large number of individuals efficiently and cost-effectively.

Bio: *Ying Lin* is a PhD student of Industrial & Systems Engineering in University of Washington. Her research focuses on solving data-driven decision making problems using statistical modeling, machine learning and data mining techniques. She aims to develop novel statistical framework for accurate monitoring, personalized prognostics, and cost-effective screening of complex system.

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1:30 – 2:20 p.m.

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