DBDS Workshop in Biostatistics

(In Person, MSOB x303 (preferred) & Virtual access Password: 210310)

DATE:	May 12, 2022
TIME:	1:30-2:50pm
TITLE:	AI for clinical trials and clinical trials for AI
SPEAKER:	**James Zou,** Assistant Professor of Biomedical Data Science, by courtesy, of Computer Science and of Electrical Engineering

Abstract:

Clinical trials are the gate-keeper and bottleneck of medicine. They are valuable but also very costly. This talk explores how AI can make trials more efficient and, conversely, how to use ideas from trials to rigorously evaluate AI. I will first discuss Trial Pathfinder, a computational framework that generates synthetic patient cohorts from medical records to optimize cancer trial designs (Liu et al. Nature 2021). Trial Pathfinder enables clinical trials to be more inclusive, benefiting diverse patients and trial sponsors. In the 2nd part, I will discuss insights that we learned from conducting some of the first trials testing real-time AIs at Stanford and analyzing data from >100 FDA-approved medical AIs (Wu et al. Nature Medicine 2021). These analyses motivate new approaches to audit AI datasets and models (data Shapley) and to understanding fine-grained mistakes model makes, all of which are critical to making AI more trustworthy.

Pre-read information/References:

Liu et al. https://www.nature.com/articles/s41586-021-03430-5
Wu et al. https://www.nature.com/articles/s41591-021-01312-x
Kwon and Zou. https://arxiv.org/pdf/2110.14049.pdf

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