samsi

NSF·Duke·NCSU·UNC

Causal Inference Program Opening Workshop
December 9-11, 2019

SPEAKER TITLES/ABSTRACTS

Michael Kosorok
University of North Carolina

"Some Applications of Reinforcement Learning in Precision Medicine"

We provide an overview of some recent developments in machine learning tools for dynamic treatment regime discovery in precision medicine. The first development is a new off-policy reinforcement learning tool for continual learning in mobile health to enable patients with type 1 diabetes to exercize safely. The second development is a new inverse reinforcement learning tools which enables use of observational data to learn how clinicians balance competing priorities for treating depression and mania in patients with bipolar disorder. Both practical and technical challenges are discussed.