Title: Algorithmic Nudges

Abstract: A large part of the social sciences focuses on the actions taken by one agent in response to a message received from another. These messages may be persuasive, informative or simply nudges (in the Thaler sense). While there is a lot of work in marketing, economics and psychology that examine the impact of such messages by the receiving agent, limited attention has been spent on the construction of these messages and whether this construction is (near) optimal. In this talk I focus on a scalable algorithmic approach to the construction of personalized messages. I outline a framework that provides the conceptual and econometric underpinnings of this approach. The framework combines novel ideas on the use of deep learning and causal to deliver messaging strategies that maximize welfare (or profits). I present evidence from a series of experiments relating to recertification nudges in the SNAP program and document the performance of the proposed approach. Finally, I discuss the implications of the algorithmic approach for welfare, fairness, privacy, theory testing and policy design.