Computing Choice  
Devavrat Shah, Massachusetts Institute of Technology

Understanding choice or preference is key to variety of decision-making problems: examples abound marketing and advertising, polling and policy-making, social recommendations and even object-tracking. In all such settings, interest is in capturing the global preferences over a collection of options or choices by means of observed partial preferences.

In this collection of lectures, we shall discuss modeling, computation and statistical issues related to this problem of using partial preference data for decision-making based on the latent global preferences. This will include choice model representation through exponential family, sparse model and multinomial logit (MNL) model; message-passing algorithms; and statistical analysis.