TEXAS A&M Institute of Data Science

Texas A&M Institute of Data Science Seminar Series

Learning Preferences with Irrelevant Alternatives

Many applications in preference learning assume that decisions come from the maximization of a stable utility function. Yet a large experimental literature shows that individual choices and judgements can be affected by "irrelevant" aspects of the context in which they are made. An important class of such contexts is the composition of the choice set. In this talk, the speaker will introduce an extension of the Multinomial Logit (MNL) model, called the context dependent random utility model (CDM), which allows for a particular class of choice set effects based on pairwise interactions between alternatives. The CDM can be thought of as a second-order approximation to a general choice system, can be inferred effectively using maximum likelihood methods and is readily interpretable. It also lays the foundation for similarly flexible models in the realm of modelling distributions of rankings. Beyond the presentation of the CDM model and its properties, the speaker will also discuss the testing problem of determining whether or not an agent's behavior satisfies the so-called Independence of Irrelevant Alternatives (IIA) that characterizes the MNL model. This talk is based on the speaker's joint work with Alex Peysakhovich, Stephen Ragain, and Arjun Seshadri.

Johan Ugander, Ph.D.

Assistant Professor
Dept of Management Science & Engineering
Stanford University

Date: Monday, Sept 27, 2021
Time: 1:50 – 2:40 p.m. US Central Time
Zoom Meeting ID: 998 4499 3279
Passcode: 724615
Faculty host: James Caverlee, CSCE

Biography

Dr. Johan Ugander is an Assistant Professor at Stanford University in the Department of Management Science & Engineering, within the School of Engineering. His research develops algorithmic and statistical frameworks for analyzing social networks, social systems, and other large-scale social and behavioral data. Prior to joining the Stanford faculty he was a postdoctoral researcher at Microsoft Research Redmond 2014-2015 and held an affiliation with the Facebook Data Science team 2010-2014. He obtained his Ph.D. in Applied Mathematics from Cornell University in 2014. His awards include a Young Investigator Award from the Army Research Office (ARO), three Best Paper Awards (2012 ACM WebSci Best Paper, 2013 ACM WSDM Best Student Paper, 2020 AAAI ICWSM Best Paper), and the 2016 Eugene L. Grant Undergraduate Teaching Award from the Department of Management Science & Engineering.

You can also click this link to join the seminar https://tamu.zoom.us/j/99844993279?pwd=TkJodWFVRURyMmkwakI4SWZGeVJTQT09

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