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| Operations Management and Statistics  **In-person** **Seminar LL 1025**  & Hybrid online via MS Teams\*  Fri., Mar. 8**,** 2024 @ **11:30 am** ET |
| Assortment Optimization for General Multi-Item Choice Models  Anton Braverman, Assistant Professor of Operations  Kellogg School of Management, Northwestern University  *All students and faculty welcome.*  ***\*Held in LL 1025 -*** *Hybrid portion hosted in* ***MS Teams*** *–* [*Click here to join the meeting*](https://teams.microsoft.com/l/meetup-join/19%3a9e1bc373e7134fd38f6c04608201b7de%40thread.tacv2/1704319321770?context=%7b%22Tid%22%3a%2278aac226-2f03-4b4d-9037-b46d56c55210%22%2c%22Oid%22%3a%227a3454cf-31a5-4115-a675-2a342cd1bcd8%22%7d)***.*** |

**Abstract |**

The static single-item assortment optimization problem is a classical and well-studied problem.

However, the variant where customers choose multiple items has received less attention, primarily due to the added complexity of modeling utility-maximizing behavior over sets of items. In this talk,   
I discuss a general multi-item choice model as well as the respective assortment optimization problem without making specific distributional assumptions on the random utilities. I will describe a computationally efficient algorithmic framework that is based on an asymptotic regime where the number of items available to the retailer grows large. Through this asymptotic lens, I will propose an efficient approximation algorithm with corresponding asymptotic optimality guarantees under general utility distributions. Numerical results demonstrate that the algorithm is very competitive even when the number of items available to the retailer is modest and even when customers choose a single item.

**Bio |**

Anton Braverman joined the Operations group at Kellogg in 2017. He completed his PhD in Operations Research from Cornell University, and holds a Bachelor's degree in Mathematics and Statistics from the University of Toronto. Anton's research is focused on stochastic modelling and applied probability. Some application domains of interest include ridesharing services, as well as healthcare operations.

**Note:***OM&S PhD students are reminded to stay in attendance for the full duration of the seminar.*

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