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I am a third-year graduate student at UVa. I am interested in analyzing consumers' shopping behaviors and firms' competition at e-commerce environments. In the past two years, I have been preparing myself by taking a series of field courses and doing research on online firms' pricing decisions.

**Courses:**

To equip myself with theoretical models and empirical approaches analyzing firms' behaviors, I took a sequence of Industrial Organization field courses. In the theoretical IO course, I worked on how U.S. women magazine publishers allocate ads and content to maximize profits and serve both advertisers and subscribers. Given that subscribers dislike ads, the main tradeoff for magazine publishers is to balance attracting subscribers by adding more content and increasing revenue by adding ads. The model explains that the percentage of ads does not reach the government's limit, which is 75 percentages, but ads are more likely to be allocated in the first third of the magazine and on the right-hand side pages.

In the empirical IO course, I studied how to estimate the effect of social media platform advertising. Like the magazine industry, social media platforms serve a two-sided market, however, due to advancements in technology, social media platforms are able to collect multiple user characteristics, including hobbies, interests, education, and so on. These user characteristics allow social media platforms to send personalized ads.

To analyze consumers' shopping behaviors with continuously increasing size and complexity of data, I took a course introducing econometrics methods for data-rich environments. After becoming familiar with theoretical methods in cross-section theory, I worked on analyzing consumers' bundle shopping behaviors. The project was implemented by two stages: in the first stage, I used unsupervised learning approaches, including K Means cluster and Spectral clustering, to find the shopping basket; in the second stage, I implemented a supervised learning approach, Lasso, analyzing consumers' shopping behaviors, where the purchase decision of one given product is dependent on both its own characteristics and characteristics of other products in the same bundle.

Besides taking field courses in IO and Econometrics, I have been doing research on firms' dynamic pricing decisions for multiple products.

**Research:**

During the summer at the end of second year, I worked on the multiple products pricing strategy in the U.S. beer market. This is an ideal setting to study multiple products pricing, because brewers always carry multiple brands and multiple package sizes. There were also two big mergers of brewers in 2008, which leads to a natural comparison of pricing trends in different market structures and analysis on the role of retailers and manufacturers in pricing decisions. I used the Vector Autoregressive model to examine pricing patterns in the pre-merge and post-merge periods. I found that price co-movements between brands in the merged groups are negatively correlated in the pre-merge period and heterogeneously correlated in the post-merge period.

Currently, I am working on multiproduct pricing strategy for ecommerce retailers. Online retailers usually carry multiple products under the same brand and multiple brands. Since the cost of repricing one product is very small, retailers frequently adjust their prices based on inventory, search cost, prices from online competitors, and prices from in-store competitors. I am interested in multiproduct pricing strategy in this environment.

My interest in consumer behaviors and firms' competition at online environments, background in Industrial Organization and Econometrics, and research experience on studying firms' pricing decisions make me an excellent candidate for NBER Economics of Digitization tutorial. The NBER Economics of Digitization tutorial will bring interesting insights into the analysis of consumers and firms at e-commerce environments.