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1. A short description of the course of graduate study pursued, including major and minor fields of study, and the years of enrollment at relevant institutions

I'm fourth year econ PhD student from University of Wisconsin-Madison. My major field of study is Industrial Organization, and my minor is Econometrics.

My interests in statistical modeling and computation techniques led me to take several classes regarding these techniques; During my years in PhD in UW Madison, I took 2yr sequence of Econometrics, 1yr sequence of Industrial Organization, also computation method class which covers several macro models and computation of these models. In this course, I have learned how to use Fortran and library for parallel computing(OpenMP). Additionally, I took 1yr sequence of applied econometric class which were a good mixture of both econometric theory and applications.

Not only the classes in Econ, I tried to reach out to different fields to get exposed to different topics of research. Last year, I took a class from Marketing department in the Wisconsin Business School which covers choice models/research methods in quant marketing. I also took one machine learning class (graduate level) from computer science department, which covers various machine learning models including decision tree, Naïve Bayes, Neural Network, etc.

Throughout my studies, I have taught myself R, Python, Stata, MATLAB and Fortran. I'm also learning how to use SQL(relational database) and other big data tools.

I hope to achieve a certain level of statistical modeling/ computation skills during my PhD years and to find good topic which can be answered with my skills.

2. A short description of general research interests, any research projects that are in process, and when appropriate, a dissertation title, short description, and listing of committee members.

My general research interests lie in industrial organization, particularly platform industry and secondary market. The topics that I am interested in are the analysis of technology advancement and industry dynamics. Currently, I am working on searching, obfuscation in online secondary market platform, which uses scrapped data from the website in hourly basis. In the platform, which is specialized for used cell phone trade, the sellers are doing duplicated postings which creates search cost and obfuscation. From the data, I can see it is creating price discrimination of the sellers, which potentially be a problem for consumers. I'm studying the strategic decision of sellers in this platform and trying to measure overall welfare created by this environment. Aside from this project, I'm studying the manufacturer's release decision and the relationship with the secondary market transaction. In cellphone market, used cellphone trade has been drastically expanded in the last few years. I'm developing a theoretical model that can link between those two to see how the secondary market trade affects release and investment decision of manufacturers.

Another branch of my interest lies in energy market, especially renewable source of energy. I have worked on electricity battery recharging scheme under the dynamic electricity price. We developed a battery capacity decision scheme with the expected benefit of using that system. Also, I'm working with a friend on a project that studies wind power generator's entry, investment decision in Texas and how it's affected by government regulation.