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 third 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 semester, I took a class from Marketing department in the Wisconsin Business School which covers choice models/research methods in quant marketing. This semester, I'm also taking 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 C++. 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 between the area of econometrics and industrial organization, particularly applying or developing better methodology or statistical models to deal with economic problems. The topics that I'm interested in are the analysis of technology advancement and industry dynamics, including transformation of the industry structure and the efficiency. Currently, I'm working on developing a production function estimation method which uses matching. Departing from the literature which uses historical variable as an instrument, we are proposing a matching scheme which uses cross sectional variation across the data.

Another branch of my interest lies in energy market, especially renewable source of energy. Due to the digitization of the electricity system, electricity demand could be tracked down in real time. Not only that, the electricity generation is also managed in real time as a result of recent advancement of Microgrid technology. I'm interested in efficient energy allocation scheme which can alleviate excess burden of energy transmission or excessive fluctuation of the electricity prices. Moreover, I want to apply economic, statistical models to solve many practical problems in this industry.