

## **Xiaoying Tu**

Ph.D. Student in Information Systems and Management Heinz College, Carnegie Mellon University	2014 – 2019 (Expected)
Master in Information Systems and Management Heinz College, Carnegie Mellon University	2012 – 2013
Bachelor of Engineering (Computer Engineering) Nanyang Technological University (Singapore)	2003 – 2007

### **Contact Information**

Tel: 412-519-5374

Email: [xiaoying@cmu.edu](mailto:xiaoying@cmu.edu)

### **Course of Study**

I'm currently in my third year of the Ph.D. program in Information Systems and Management at Heinz College, Carnegie Mellon University. My concentration is in Economics and Information Systems. My Ph.D. course work can be roughly divided into three categories. The first category is the "statistics toolbox" for my research. During the first two years of the Ph.D. studies, I have completed the three semester-long courses of the econometrics sequence, and served as the teaching assistant for the second course in the sequence. Besides the classical econometrics, I also learned a variety of other techniques from courses like Machine Learning, Advanced Methods of Data Analysis (topics covered including kernel smoothing, GAM, PCA, and graphical models), Bayesian Statistics, Network Models, and Hidden Markov Models. The second category is the economic theories, including the Microeconomics Theory, Behavioral Economics, and Multimedia and Digital Marketing. These courses form the theoretical framework of my research. The third category is the seminars which provide a great opportunity for us to apply the theories and tools in analyzing research papers and exchanging ideas. In Heinz College's three-semester-long Ph.D. seminar sequence, we listened to our faculty members presenting their published work, and then proposed, refined, and presented our first research paper. I also attended Seminar in Business Technologies and Seminar in Analytical and Structural Marketing Models, which offer in-depth coverage of works in these specific areas. Last but not least, the course work I completed in the Master's program exposed me to state-of-the-art information technologies and how they are integrated into today's businesses.

### **General Research Interests**

My research interest lies in the field of Economics and Information Systems and particularly in the impact of technology change on the entertainment industries: how technology evolution has disrupted

the ecosystem and revenue chain in the film and music industries and its implications on business strategies and policy making. Domain knowledge on technology trend in these industries, a foundation of economic theories, and a collection of econometric and other methods are crucial for this area of research, and that's exactly the focus of my course work described above.

In many cases, IT presents itself as a double-edged sword to the entertainment industries, and strategically leveraging on the power of IT such that the benefits outweigh the risks thus becomes a key for these companies to survive and thrive in the new age. For example, my first paper examines a situation where a few major Hollywood studios collaborate with Chinese streaming platforms to bypass China's annual movie import quota and make some of their movies online to the Chinese audience while they are still in US theaters. There is clear evidence that as soon as these movies went online in China, they were pirated and illegally distributed over the Internet, presumably putting US box office revenue at risk. However, unlike those "out-of-control" leaks (e.g. from pre-release screeners), such "controlled" leaks (in the sense that the studios have the discretion of when to make it available) have almost negligible impact on US box office returns. Counting the licensing fee paid by the Chinese streaming platforms, the studios are actually better off from such very early release strategy in overseas digital channels despite the induced piracy leaks. In the second paper which I'm working on right now, I turn to the music industry to analyze the dual impact of pre-release piracy, which can generate word-of-mouth but also displace sales. I will use a hidden Markov model to capture the dynamics of such impact at different stages of releases and measure the overall cost and benefit to the music labels.