Yangfan Liang

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Education

- **Carnegie Mellon University** — Pittsburgh, PA
  - Ph.D. in Information System and Management — Aug 2016 - Present
  - Master in Machine Learning — Jan 2020 - Dec 2020
- **University of Science and Technology of China** — Hefei, China
  - B.S. in Statistics — Sep 2012 - June 2016
  - Minor in Computer Science
  - Graduated with Guo Moruo Scholarship (*summa cum laude*)

Research Interest

- **Topics:** Consumer behaviour in digital markets, Fairness in machine learning
- **Methodologies:** Econometrics, Machine learning, Natural language processing, Computer vision, Multimodal learning

Selected Coursework

Data Analysis (10718)	Probabilistic Graphical Models (10708)
Convex Optimization (10725)	Statistical Machine Learning (10702)
Topics in Deep Learning (10707)	Machine Learning with Large Datasets(10605)
Intro to Machine Learning (10701)	Graduate AI (15780)

Working Paper

- Yangfan Liang, Michael Smith, Daegon Cho, and Gordon Burtch.
  Impact of Early Digital Movie Release on Box Office: Evidence from Korean Market.
  Major revision at MIS Quarterly, presented at WISE 2020.
- Yangfan Liang, Rahul Telang.
  Customer Response to Data Breach: Evidence from Consumer Transactions.
  Draft finalizing for journal submissions, presented at PLSC 2019.
- Yangfan Liang, Mi Zhou, Pedro Ferreira, and Michael D. Smith.
  Impact of Instructor Personality on the Success of Online Educational Videos.

Grant, Honors and Awards

- Selected to the NBER Young Scholars Workshop on the Economics of Artificial Intelligence — 2020
- Selected to the NBER Digitization Tutorial for PhD Students — 2019
- PNC Center for Financial Services Innovation Research Grant, CMU — 2017
- Presidential Fellowship, Carnegie Mellon University — 2016
- Guo Moruo Scholarship (Highest honor for USTC undergraduate), USTC — 2015
- National Scholarship (Top 1%), Ministry of Education of China — 2014

Interest in AI

As a PhD student major in Information System from Carnegie Mellon University, my research interest lies in the field of consumer behaviour in digital markets. I am interested in using econometrics and machine learning techniques to understand consumers' behavior in technology-enabled markets, such as digital entertainment and online education. In addition, I am interested in the understanding possible bias in machine learning algorithms.

I have received a master degree in machine learning. During the summer of 2018, I utilized my learnt knowledge on a machine learning project for a fintech startup named Stocksnips. This project is to predict stock sentiment through deep learning from related news report and SEC filings. I applied the newly introduced NLP pretrained models - BERT and XLNet, and then finetuned those models for sentiment classification. I successfully improved this binary classification task accuracy from 87% to 96%. Currently, in my thesis, I am also using multi-model deep learning method to predict instructor personality traits based on the visual, audio, and textual information in the video. I then apply this model to large-scale video data collected from educational channels on YouTube to examine the impact of instructors' personality traits on the success of the videos measured by number of views and likes. The results provide managerial insights for how individual instructors and educational platforms can improve outcomes for online learners.

In the spring of 2020, I have taken part in NBER digitization tutorial and learned from Prof. Amalia Miller about digitization and fairness. Inspired by that, last summer I worked at Intel as an applied machine learning intern, and examined possible bias in computer vision. I found that GAN would produce bias results if the training data is unbalanced, i.e. in some cases bias in the data have been ignored and the algorithms have been falsely blamed.