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## **RICHENG PIAO (RYAN)**

Ph.D.

### **PERSONAL DETAILS**

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### **AREAS OF INTEREST**

#### *Data Science and Data Analytics*

Make data-informed decisions, define metrics, design experiment, and recommendations.

#### *Research*

Empirical research with emphasis on industrial organization, Data Science, public policy, and applied econometrics.

#### *Teaching*

Microeconomics, Macroeconomics, Econometrics, Money and Banking, and Industrial Organization.

### **EDUCATION**

*Northeastern University, Boston, MA*

*Aug 2021*

Ph.D. in Industrial Organization in Economics

*Northeastern University, Boston, MA*

*May 2014*

M.S. in Applied Economics

*University at Albany, State University of New York, Albany, NY*

*May 2012*

B.S. in The Honors Program in Economics

B.S. in Mathematics

## DISSERTATION

### “Applications of Structural Demand Estimation to the Smartphone and Electric Automobile Industries”

*“Quality, Variety, and Welfare: The U.S. Smartphone Market”, Job Market Paper*

- Collect and clean data covers 1.6 billion smartphone sales in the U.S. market.
- Developed program in Python implementation of routines for estimating the demand for differentiated products with BLP-type random coefficients Logit models.

*“Fuel Prices, Federal Tax Credits, and the Welfare: A Case of the Electric Automobile Industry”*

- Scrap and clean data cover 120 million automobile sales in the U.S. market.
- Implemented random coefficients demand estimation models with additional moments that match demographic data to increase the accuracy of demand estimation.

## HONORS AND AWARDS

*IBM Data Science Professional Certificate* 2021

Applied Data Science Capstone: Predict SpaceX Landing outcome

*Northeastern University, Boston*

PhD Fellowship 2012 – 2021

President of EconGSA 2012 – 2015

*State University of New York, Albany, NY*

Gordon Karp Award May 2012

Excellent Academic Achievement in Economics May 2012

Outstanding Academic Achievement in Mathematics and Statistics May 2012

Dean’s List 2009 - 2012

## TEACHING EXPERIENCE

*Instructor, Department of Economics, Northeastern University, Boston, MA*

Principles of Macroeconomics 2017 –

- Developed and designed lesson plans based on the operation of the national economy.
- Taught students’ various topics including analyzing economic problems of economic growth, unemployment, inflation, and business cycle. In addition, the

effect of both fiscal and monetary policies on these major problems will be explored.

- Led and organized 25+ students to participate in group projects that applied knowledge of economic theory to real-world settings (data collecting, analytics, visualization, and presentation).

Money and Banking 2016 – 2017

- Developed and designed the class that aims to provide the student with an introduction to the role of money, interest rates, financial markets and institutions, central bank and monetary policy in the economy, international finance, and monetary theory with thus providing a solid foundation for further study or employment in the financial services industry.
- Led and organized 30+ students to participate in group projects that applied knowledge of economic theory to real-world settings.

Principles of Microeconomics Summer 2014

*Recitation Instructor, Department of Economics, Northeastern University, Boston, MA*

Principles of Macroeconomics 2015 - 2016

Principles of Microeconomics 2014 – 2016

*Teaching Assistant, Department of Economics, Northeastern University, Boston, MA*

Mathematic for Economists (MS Level) Spring 2014

Intermediate Microeconomics Fall 2013

Intermediate of Macroeconomics Fall 2013

Statistics for Economics Spring 2013

The Principle of Microeconomics Spring 2013

Development Economics Fall 2012

Economics of crime Fall 2012

## SKILLS

### Technical Skills

Python (Pandas, NumPy, SciPy, Matplotlib, seaborn, scikit-learn, folium, beautifulsoup4, Jupiter notebook), R (RStudio, plyr, fpp2, caret, glmnet, psych, kernlab, ggplot2, reshape), Stata, SQL (IBM Db2), NoSQL, GitHub, Hadoop, AWS and AWS Lambda.

### Language

Native in Chinese and Korean

## **CITIZENSHIP/VISA STATUS**

China/F1

## **REFERENCES**

Dr. James Dana (Committee Chair)  
Professor of Economics and Strategy  
Northeastern University  
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