Youngmin Ju

CONTACT INFORMATION

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SUMMARY

Results-oriented Ph.D. in Economics specialized in econometrics and causal inference with a track record of leading data science teams to deliver impactful solutions. Adept at optimizing e-commerce operations, maximizing profits, and driving strategic decision-making. Passionate about data integration and innovative problem-solving. Excels in fast-paced environments while collaborating with cross-functional teams to achieve business objectives.

EDUCATION

Ph.D., Economics
University of Southern California, Los Angeles, CA   August 2021
- Thesis Topic: "Essays on Causal Inference"
- Specialized in Econometrics and Causal Inference
- Advisor: Prof. Geert Ridder
- Honors: Korean Studies Institute (KSI) Graduate Student Affiliate (Graduate research grant) | Graduate School Summer Research & Writing Grant | Dornsife Graduate School Fellowship | USC Dornsife Dean's List x2

M.A., Economics
Korea University, Seoul, Korea   Feb 2010
- Thesis Topic: "Control Function Approach for Partly Ordered Endogenous Treatments: Military Rank Premium in Wage"
- Advisor: Prof. Myoung-jae Lee
- Honors: Brain Korea 21 scholarship (Merit-Based)

B.S., Mathematical Sciences
Korea Advanced Institute of Science and Technology (KAIST), Daejeon, Korea   Feb 2008
- Advisor: Prof. Ganguk Hwang
- Honors: Mathematical Science Department scholarship (Merit-Based)
  National Science and Technology scholarship (Merit-Based)

PROFESSIONAL EXPERIENCES & SERVICES

Lead Data Scientist

Datacrunch Global, Seoul, Korea   October 2022 – Present
- Led the design and deployment of Business Decision Solutions (BDS), providing managers with real-time insights across sales, inventory, and CRM functions. Enabled a **30% reduction in decision-making time** and a **40% improvement in forecast accuracy**.
- Spearheaded projects to automate data cleansing and integration processes, **reducing manual report generation time by 80%** and enabling near-instant, accurate reporting for daily, weekly, and monthly decision-making. **Improved data processing speed by 70%, handling up to 3 million data points per day.**

Economist (Data Scientist)
Decode Data Inc., Los Angeles, CA   October 2021 - Present
- Achieved a **300% improvement in CRM performance** by implementing AI-driven customer analysis, enhancing customer targeting, and **driving sustained high sales**

growth of 20% year-over-year.

- Developed and implemented AI-based demand forecasting and profit simulation models, **optimizing inventory levels by 25%** and **reducing supply chain costs by 15%**, while improving product sourcing decisions for over 50,000 SKUs.

Graduate Teaching Assistant

University of Southern California, Los Angeles, CA   August 2016 - May 2021

- Courses Taught: Big Data Econometrics (ECON 570), Applied Econometrics (ECON 615), Introduction to Econometrics (ECON 318), Introduction to Statistics for Economists (ECON 317)
- Tutored approximately 70 graduate-level university students per semester in concepts including Python programming for Causal Inference and Machine Learning

Assistant Professor (First Lieutenant)

Korea Army Academy at Yeongcheon (KAAY), Yeongcheon, Korea   June 2010 - May 2013

KAAY is a military academy of the Republic of Korea Army for training officer cadets.

- Devised robust Panel Data economic models, resulting in the successful completion of two government research projects worth $40,000+ each.

- Led and supervised cadets, creating a clear vision and fostering a positive work environment, contributing to the Economics department achieving the #1 ranking for 2 consecutive years.

Economics Researcher

Hyundai MOBIS, Seoul, Korea   October 2009 - March 2010

- Designed causal inference models to investigate the economic effects of alleged anti-competitive behaviors of Hyundai Mobis on retail agencies, mediating companies, repair shops, and consumers.
- Crafted compelling economic evidence that led to a substantial reduction of a fine from $150 million to $30 million.

HONORS AND AWARDS

Korean Studies Institute (KSI) Graduate Student Affiliate, 2019-2020, USC

Doctoral Fellowship, 2019-2020, University of Southern California (USC)

Graduate School Summer Research and Writing Grant, 2019, USC

TA Assistantship, 2016-2019, USC

Doctoral Fellowship, 2015-2016, USC

USC Dornsife Dean's List, (Fall 2015, Spring 2016), USC

Brain Korea 21 scholarship, 2008-2010, Ministry of Education and Human Resource Development

Mathematical Science Department scholarship, 2005-2008, KAIST

National Science and Technology scholarship, 2004-2008, National Research Foundation of Korea

Technical SKILLS

Data Engineering: AWS, Exploratory Data Analysis, Feature Engineering (Imputation, Encoding, Selection, Normalization, Imbalance)

Statistics and Econometrics: Experimental Design, A/B Testing, Hypothesis Testing, Resampling

Causal Inference: Matching, Instrumental Variables, Regression Discontinuity Design, Difference in Differences, Synthetic Control

Machine Learning: Supervised (Classification, Regression), Unsupervised (Clustering, Association, Dimensionality Reduction)

Programming: Python (NumPy, pandas, matplotlib, seaborn, plotly, sklearn, TensorFlow, Keras), R, SQL, Tableau, Git, STATA

JOURNAL
PUBLICATIONS
AND BOOK
CHAPTERS

Journal Publication

Ju, Y.-M. and M.-J. Lee. (2017), Control function approach for partly ordered endogenous treatments: military rank premium in wage, *Oxford Bulletin of Economics and Statistics*, 79: 1176–1194.

Lee W.H., K.H. Park, **Y.M. Ju**, S.J. Kim and D.S. Lee. (2013), A Study on Scale of Defense Expenditure for Security Menace: A Panel Regression Analysis Approach, *Journal of Korea Army Academy at Yeong-cheon*, 76(1), 207-242, (in Korean)

Ju, Youngmin (2012), How Immigration has Affected Working Hours, *Journal of Korea Army Academy at Yeong-cheon*, 75(1), 83-92, (in Korean)

Ju, Youngmin (2011), A Study on The Economic Incentives of Military followed by Military Effectiveness Analysis, *Journal of Korea Army Academy at Yeong-cheon*, 74(1), 25-46, (in Korean)

Book Chapters

2 book chapters: "The Economics of Defense", ISBN 978-89-962105-9-7 (2014) (in Korean)
"Understanding of National Security", ISBN 978-89-962105-5-9 (2011) (in Korean)

Working Papers

Ju, Youngmin, Affirmative Action in Korea – Regression Discontinuity with Multiple Running Variables

Ju, Youngmin, Fuzzy MRD (Multiple-assignment variable Regression Discontinuity) Identification

CERTIFICATES &
PROFESSIONAL
DEGREE

Hunet Chief Management Professional (Online MBA) | Hunet | Issued Aug 2012
- Credential ID: HU-2012-411421

Data Scientist with R Track | DataCamp | Issued Sep 2019
- Skills: R, Data Science, MySQL, Causal Inference, Machine Learning

Machine Learning | Coursera | Issued Jul 2019
- Credential ID: MAY9PYPMRU62
- Skills: R, Data Science, Machine Learning, Python (Programming Language)