

HYUKJUN KWON

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EDUCATION

Rutgers University, USA

Ph.D. in Economics June 2024 (expected)

Pennsylvania State University, USA

M.A. in Economics 2018

Seoul National University, Korea

M.A. in Economics 2016

Republic of Korea Naval Academy, Korea

B.E. and B.A in Military 2009

RESEARCH INTERESTS

High-dimensional Models, Factor Analysis, Causal Inference

WORKING PAPERS

Inference for Low-rank Models without Estimating the Rank (with Jungjun Choi, Yuan Liao)

Abstract: This paper studies the inference about linear functionals of high-dimensional low-rank matrices. While most existing inference methods would require consistent estimation of the true rank, our procedure is robust to rank misspecification, making it a promising approach in applications where rank estimation can be unreliable. We estimate the low-rank spaces using pre-specified weighting matrices, known as diversified projections. A novel statistical insight is that, unlike the usual statistical wisdom that overfitting mainly introduces additional variances, the over-estimated low-rank space also gives rise to a non-negligible bias due to an implicit ridge-type regularization. We develop a new inference procedure and show that the central limit theorem holds as long as the pre-specified rank is no smaller than the true rank. Empirically, we apply our method to the U.S. federal grants allocation data and test the existence of pork-barrel politics.

Inference for Low-rank Completion without Sample Splitting with Application to Treatment Effect Estimation (with Jungjun Choi, Yuan Liao)

R&R at *Journal of Econometrics*

Justified-envy-minimal Efficient Mechanisms for Priority-based Matching (with Ran Shorrer)

R&R at *Games and Economic Behavior*

TEACHING EXPERIENCE

Instructor, Rutgers University

- Econ Data Science, Advanced Analysis for Economics (co-teaching with Prof. Yuan Liao) Spring 2023
- Econometrics Summer 2022
- Math Camp for Incoming Econ Graduate Students Summer 2022, Summer 2021

Teaching Assistant (graduate courses), Rutgers University	2019 – 2022
Econometrics (x4), Macroeconomics (x1)	
Teaching Assistant (undergraduate courses), Rutgers University	2019 – 2022
Forecasting and Big Data (x2), Introduction to Econometrics (x2), Econ Data Science (x1), Women, Men, and Economy (x1), Financial Economics (x1), Energy Economics (x1)	

HONORS AND AWARDS

Dorothy Rinaldi Award, Rutgers University	2023
<i>In recognition of outstanding scholarship, leadership, and service to other graduate students</i>	
Sidney I. Simon Prize for Outstanding Graduate Student Teaching, Rutgers University	2023
<i>In recognition of outstanding teaching by a graduate student</i>	
Professor Hiroki Tsurumi Graduate Dissertation Fund in Economics, Rutgers University	2022
<i>In recognition of exceptional dissertation research by advanced graduate students</i>	
Sidney I. Simon Award, Rutgers University	2021
<i>In recognition of outstanding second year research paper</i>	
Rie Ashizawa Memorial Award, Rutgers University	2019
<i>In recognition of outstanding performance on the qualifying examinations</i>	

PRESENTATIONS

KAEA Job Market Conference	Nov 2023
Econometrics Seminar, University of Connecticut	Oct 2023
Midwest Econometrics Group (MEG) Conference	Oct 2023
International Conference on Computational Statistics (COMPSTAT)	Aug 2023
International Conference on Econometrics and Statistics (EcoSta)	Aug 2023

REVIEWING ACTIVITIES

International Journal of Game Theory, ACM EC

SKILLS AND PERSONAL

Programs: Matlab, Julia, Python, L ^A T _E X	
Languages: English (fluent), Korean (native)	
Military Service: Lieutenant, Republic of Korea Navy	2009 – 2014

REFERENCES

Professor Yuan Liao (Chair)
Rutgers University
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(848) 932-8621

Professor Roger Klein
Rutgers University
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(848) 932-7543

Professor Norman Swanson
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