

Joonbae Lee (이준배)

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CURRENT POSITION

Associate Fellow (부연구위원) from Aug. 2019 to Present
Head of the Department of Digital Economy Research (디지털경제연구실장)
from Jan. 2021 to Present
KISDI (Korea Information Society Development Institute, 정보통신정책연구원)

EDUCATION

Ph.D., Economics August 2019
University of Pennsylvania, Philadelphia, PA
Thesis: Essays on Labor Markets with Search and Information Frictions
M.A., Economics June 2013
Korea University, Seoul, South Korea
Thesis: Optimal Mechanism Design under Externality
B.A., Economics/B.S., Mathematics June 2011
Korea University, Seoul, South Korea

RESEARCH INTEREST

Applied Economics, Search and Matching Theory,
Economics of Digitization, Industrial Organization

PUBLICATION

1. *Ranking and Search Effort in Matching*, with Hanna Wang
2021 Sep 18, *Economic Theory* (2021)

This is a joint work with my Ph.D. classmate. The paper studies the workers' search effort when they are ranked by a common observable trait (e.g., test scores, college). We fully characterize the equilibrium to show how the search effort varies with rank, and how the market tightness and search cost affect a worker's match outcome.

2. *Optimal aggregation of multiple signals: Optimality of linear aggregation rule and possibility of using the maximum or the minimum of signals*, with Sam-Ho Lee
2014 Dec, *Journal of Economic Theory and Econometrics*. 25(4), p. 71-81

This is a joint work with my MA advisor. We study an optimal aggregation rule of multiple signals, which is relevant to screening of credentials in college admissions, or job applications. We show the usefulness and optimality of a linear aggregation rule (the weighted sum of signals), in contrast to other rules, such as taking the maximum or the minimum of the signals.

WORKING PAPERS

1. *Wage Dynamics with Developing Asymmetric Information*

This paper studies the life-time wage dynamics of a worker when his/her productivity is revealed gradually over time, and focuses on how the job shift signals outside firms of the worker's quality.

2. *Matching with Multiple Applications: Extension to Multi-stage Offers and Its Implications*

Extends the matching-with-multiple-application by Albrecht, Gautier and Vroman (2003) and generalizes their matching function by incorporating multi-rounds of offers.

**ACADEMIC
EXPERIENCE**

Journal Referee for International Economic Review (Spring 2021)
Journal Referee for International Economic Review (Fall 2019)
Journal Referee for Economic Theory (Fall 2019)
Search Committee for KISDI, attending AEA Meetings (Winter 2019, Winter 2020)
Research Assistant for professor Joseph Harrington
grader for his Game Theory class, and proofreader for his paper (Spring 2019)
Research Assistant for professors Andy Postlewaite and Olivier Compte,
proofreading their book “Ignorance and Uncertainty” (Summer 2017)
Research Assistant for professor SangMok Lee (Spring 2017)
Research Assistant for professors Andrew Postlewaite and George Mailath (2016)

**TEACHING
EXPERIENCE**

GRADUATE LEVEL COURSES

Instructor, Math Camp for Incoming Econ Graduate Students, (Summer 2016)
Department of Economics, University of Pennsylvania
Math refresher for entering first-year Economics Ph.D. students. Covers constrained optimization problem and basic probability.
Teaching Assistant, Graduate Game Theory, (Fall 2014), (Fall 2015)
Department of Economics, University of Pennsylvania
Teaching Assistant, Graduate Microeconomic Theory I, (Fall 2011 to Fall 2012)
Department of Economics, Korea University

UNDERGRADUATE LEVEL COURSES

Grader and TA, Game Theory for Business, (Spring 2019)
The Wharton School, University of Pennsylvania
Teaching Assistant, Economics For Social Policy (Master’s), (Fall 2018)
Department of Social Policy and Practice, University of Pennsylvania
Introductory economic theory for non-economics major Master’s level students, focused on application to analysis of social policy.
Instructor, Statistics for Economists, (Summer 2018)
The College of Liberal and Professional Studies, University of Pennsylvania
Intermediate course for undergraduate economics major students covering the basics of statistics, probability theory and its economic applications.
Recitation Instructor, Intermediate Microeconomics, (Spring 2018)
Department of Economics, University of Pennsylvania
Teaching Assistant, Strategic Reasoning, (Fall 2017), (Spring 2015)
Politics, Philosophy and Economics Program, University of Pennsylvania
Introductory-level game theory focused on intuitions and ideas, targeted for non-economics majors studying Politics, Philosophy and Economics.

PROFESSIONAL EXPERIENCE 2021.8 정보통신정책학회 Panel Discussion on the Digital Transformation
2021.7. to Present, Organizer of monthly KISDI-NRC 벤처르네상스포럼
2020.10 정보통신정책학회 정기학술대회 Presentation (데이터 경제), Seoul, Korea
2020.10 KISDI-ETRI-SPRi Joint Conference Presentation (데이터 경제), Online
2020.8. to 2020.12. 통합 데이터 거래 지원체계 연구 (Co-PI, 세부책임자)
2020.5. to 2020.12 AI 학습용 데이터 생태계 활성화 방안 연구 (PI, 연구책임자)
2020.5. to 2020.12 오픈 데이터 생태계 활성화 방안 연구 (PI, 연구책임자)
(Featured in the news article “데이터도 ‘오픈소스’처럼 활용될 수 있을까” ZDNet 2021.2.8.)

CONFERENCE PRESENTATIONS 2021.9 Microeconomics Seminar, Korea University, Seoul, Korea (scheduled)
2021.8 한국산업조직학회 하계 학술대회 Discussion, Online
2020.8 한국산업조직학회 하계 학술대회 Presentation, Online
2019.10 The 13th East Asian Contract Theory Conference, Yokohama, Japan
2019.8 Econometric Society Summer Meeting, Seattle, WA
2019.7 Midwest Theory, Bloomington, IN
2018.12 Econometric Society Winter Meeting, Naples, Italy
2018 Economics Graduate Students' Conference, Washington University in St. Louis
2018 Asian Meeting of the Econometric Society, Seoul, Korea
2018 Midwest Theory, Philadelphia, PA
2017 Penn State Theory, State College, PA (Poster)
2016 Penn State Theory, State College, PA (Poster)
2016 European Meeting of the Econometric Society, Edinburgh, UK (by co-author)
2016 – 2018 Penn Micro Lunch Seminars, Macro Student Workshop

AWARDS AND GRANTS President's Leadership Award Travel Grant, (UPenn 2017)
School of Arts and Sciences Dean's Travel Award, and Graduate Student Assembly Research Student Travel Grant (UPenn 2017-2018)
BK Korea 21 Scholarship (Korea University, 2011-2013)

REFERENCES

Professor **Kenneth Burdett**
Department of Economics,
University of Pennsylvania
kennethburd@gmail.com

Benjamin Lester, Ph.D.
Research Department,
Federal Reserve Bank of Philadelphia
Senior Economic Advisor and Economist
Ten Independence Mall
Philadelphia, PA 19106-1574
Benjamin.Lester@phil.frb.org

Professor **George Mailath**
Department of Economics
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The Ronald O. Perelman Center for
Political Science and Economics
133 South 36th St.
gmailath@econ.upenn.edu

Professor **Andrew Postlewaite**
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