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Education
Ph.D. in Economics, New York University, 2020-2025 (expected)
M.S. in Economics, University of Wisconsin-Madison, 2018-2020
Double Degree in Psychology and Business Administration, Yonsei University-Seoul, 2013

References
Professor Quang Vuong   Professor Boyan Jovanovic
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Professor Daniel Waldinger
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Fields of Interest
Auction, Econometrics, Industrial Organization (Market Design)

Employment and Research Experience
2021 - 2024   Research Assistant for Professor Boyan Jovanovic
2014 - 2018   Junior Economist at the Central Bank of Korea
                                   Supported the Governor's attendance at BIS bimonthly meetings
                                   Engaged in open market operations

Working Papers
Sequential First-Price Auctions under Partial Disclosure: An Application to Korean Fruit Auction
(Job Market Paper)

I consider a model in which a first-price auction sells one object at a time and repeats. During this repetition, only the winner and the winning bid are announced after each auction. A bidder uses this announcement to adjust his bidding strategies in order to win multiple objects across the repeated auctions. I narrow the repetition down to a two-period, so that I can nonparametrically identify a bidder's strategy and the complementarity between objects that motivates him to acquire multiple objects. I apply this model to the Korean Fruit Auction and suggest using an alternative auction design, the Product-Mix

Auction. This design finds a uniform price for each variety, so farmers need not worry that their produce might be sold at the trough of the oscillatory winning bids inherent in the current auction design. Moreover, the alternative design mitigates the bid shading typical of uniform-price auctions, thereby protecting farmers' interests; as a result, the outcome of the design aligns with the government's objectives.

Disentangling Affiliation and Synergy in First-Price Auctions under Limited Disclosure

I consider a two-period first-price auction where the auctioneer sells a single unit each period, and discloses only the winner's identity between the periods. If a bidder wins both auctions, either (a) the first unit makes the second unit more valuable (synergy) or (b) the first unit has no causal effect (no synergy) but is a byproduct of a bidder highly valuing both units (affiliation); the presence of synergy entails different auction design, such as whether to bundle both units or not. Under the independent private value paradigm, I develop a model that treats synergy and affiliation separately. For the separation, I use a nonparametric identification strategy; the strategy is also applied to making the kernel density estimator whose simulation result shows its accuracy.

Works in Progress
A Test Statistic to assess if a Mechanism implements a Social Choice Function

Assume there are n states, denoted as $\theta_1, \ldots, \theta_n$, and the designer has a social choice function $f(\cdot)$, such that the optimal outcomes envisioned for each state are $x_1 = f(\theta_1), \ldots, x_n = f(\theta_n)$. In the mechanism design problem, it is assumed that the designer does not know the current state, while the agents have precise knowledge of the state they are in. The designer's goal is to devise a mechanism $g(\cdot)$ such that the Nash equilibrium outcome of $g(\theta)$ matches $f(\theta)$ in as many states as possible. Assuming the designer knows the probability mass for each $\theta_1, \ldots, \theta_n$, such that any two mechanisms $g_1(\cdot)$ and $g_2(\cdot)$ have their own success rates, this project seeks to quantify whether the difference in these success rates is statistically significant using a test statistic. *This project is currently dormant.*

Econometrics in Sequential First-Price Auctions (with Quang Vuong)

Two working papers above assume a two-period framework. This project aims to extend the model to three or more periods while maintaining the nonparametric identifiability of the model's parameters.

Honors, Scholarships, and Fellowships
2020-2025	MacCraken Fellowship
2018	Exemplary staff at the International Affairs Department
2016	Governor's Award for Annual Paper Competition – 1st prize
	Details in Pre-PhD Publication

Pre-PhD Publication
Na, Hyunjoo and Jong Jae Choi (2016), "Analysis of Financial Market Responses to Economic News," *Bank of Korea's Monthly Bulletin*, 7: 38-72. (Korean, English)

Other Information
Department Activity	Organizer of the Student Econometrics Lunch Seminar, Jan 2024 - Present
Programming	Python (Numba, multiprocessing), MATLAB
Military Status	Served a two-year duty in the South Korean Army, 2008-2010
Citizenship	South Korea, United States

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