

## Education

### University of Pennsylvania

Ph.D. in Economics 2020 –  
(Fall 2021 – Spring 2022: Leave of absence due to military service in Korea.)

### University of British Columbia

B.Sc. in Mathematics (with Distinction) 2015 – 2017  
B.A. in Economics 2012 – 2014

## Working Papers

1. **Identification of Treatment Effects Heterogeneity Using Prognostic Variables**  
IAAE 2024 (Xiamen); Penn 2024 (x2); JHU-Penn-NYU Applied Microeconomics PhD Student Conference.
2. **Difference-in-Differences with Latent Group Structures**  
(with Hiroyuki Kasahara)  
Labor, Firms, and Macro Reading Group 2023; California Econometrics Conference 2023; CESG 2023; Penn 2023.
3. **Event Studies for Discrete Outcomes with Latent Transition Heterogeneity**  
(with Hiroyuki Kasahara)  
(Earlier versions of the manuscripts titled “Difference-by-Transitions: Theory and Applications in Program Evaluation” by Young Ahn, “Event Study Designs for Binary Outcomes with Latent Group Structures” by Hiroyuki Kasahara, and “Event Study Designs for Discrete Outcomes with Latent Heterogeneity.”)  
Penn 2024; SOLE 2024; IAAE 2024 (Thessaloniki); North American Summer Meeting of the Econometric Society 2024; Asian Meeting of the Econometric Society 2024; EEA-ESEM 2024; CESG 2024.

## Work in Progress

1. **Dynamic Treatment Effects: Heterogeneity and Intertemporal Tradeoffs**
2. **Technology, Skills, and Inequality in Competitive Environments: Evidence from Go Players**  
AASLE 2023; Penn 2024.
3. **Finite Mixture Regression Models for Treatment Effect Parameters with Many Regressors**  
(with Hiroyuki Kasahara)  
EcoSta 2021.

## Presentations

**2024:** Penn (x4); SOLE; IAAE (Xiamen); IAAE (Thessaloniki); Asian Meeting of the Econometric Society; North American Summer Meeting of the Econometric Society; EEA-ESEM; JHU-Penn-NYU Applied Microeconomics PhD Student Conference.

–**2023:** Labor, Firms, and Macro Reading Group; CESG (x2); Penn; AASLE.

(\*: Scheduled)

## Software

1. `pathselection` (with Hiroyuki Kasahara)  
Event study designs for binary/discrete outcome variables.  
Available at <https://github.com/bayesiahn/pathselection>.
2. `mixturedid` (with Hiroyuki Kasahara)  
R package for difference-in-differences when parallel trends assumptions do not hold.  
Available at <https://github.com/bayesiahn/mixturedid>.
3. `SimpleDifferentialOperators.jl` (QuantEcon)  
Julia package for solving differential equations by numerical discretization. I worked on derivation (with Jesse Perla), implementation, documentation, tutorials, and complete examples.  
Available at <https://github.com/quantecon/SimpleDifferentialOperators.jl>.

## Previous Employment

<b>Research Assistant</b> Department of Economics, University of Pennsylvania Supervisor: Andrew Shephard	October 2023 –
<b>Contributor</b> QuantEcon Numerical solutions for heterogeneous agent models in macroeconomics.	January 2019 –
<b>Predoctoral Fellow</b> Vancouver School of Economics, University of British Columbia Supervisor: Giovanni Gallipoli and Jesse Perla	August 2018 – June 2020
<b>Research Assistant</b> Bank of Canada Supervisor: Heng Chen	June 2017 – July 2018
<b>Research Assistant</b> Vancouver School of Economics, University of British Columbia Supervisor: Hiroyuki Kasahara	May 2016 – June 2017
<b>Research Intern</b> Korea Labour & Society Institute	October 2014 – January 2015

## Teaching

<b>Guest Lecturer</b> ECON 628 - Topics in Applied Econometrics I (UBC) Lecture on data analysis and auto-differentiation for second-year graduate students.	January 2017 – April 2017
<b>Teaching Assistant</b> ECON 2310 - Econometric Methods and Models (Penn) Supervisor: Xu Cheng	Fall 2023/2024
ECON 4320 - Microeconometrics (Penn) Supervisor: Petra Todd	Spring 2023/2024
ECON 0100 - Introduction to Microeconomics (Penn) Supervisor: Anne Duchene	Fall 2022
CPSC 303 - Numerical Approximation and Discretization (UBC)	Spring 2017

## Honours & Awards

### University of British Columbia

Dean's Honour List (x2)	2015 – 2017
N SERC Undergraduate Student Research Awards	May 2016
N SERC Undergraduate Student Research Awards (declined for another job offer.)	May 2017
Graduation with Distinction	May 2017

### Others

Service for the Republic of Korea Army (Sergeant, served in an artillery battalion.)	2020 – 2022
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## Skills

### Computer programming

C/C++, Julia, MATLAB, Python, R, Stata, shell scripting, multi-cluster computing with MPI, version controls with Git, GNU Make.

### Foreign languages

Korean (native), Japanese (advanced; certified with JLPT N1 in 2022), Mandarin (advanced; certified with HSK Level 6 in 2020), Literary Chinese (intermediate)