**Seungmin Yoo**

• 595 Commonwealth Avenue, 636A, Boston, MA 02215 • smyoo@bu.edu • (424) 777-5307

February 5, 2025

Dear Selection Committee,

I am writing to express my keen interest in the NBER Innovation Research Boot Camp. As a PhD candidate in the Department of Strategy & Innovation at the Questrom School of Business, Boston University, my research focuses on the impact of immigration on innovation.

My interest in this topic primarily stemmed from my experience waiting for approval of my Optional Practical Training (OPT) application to work as a pre-doctoral research fellow in economics and strategy at UCLA, following my Master's in Economics from New York University. The Donald Trump administration's immigration restrictions during that time heightened my anxieties about the application's outcome. This experience led me to delve into the ongoing debates about the economic impact of immigration, particularly regarding the role of skilled immigrants. I extensively researched these debates and discovered that people held vastly different views on the issue. This experience, combined with my research on top U.S. inventors, who I discovered were often immigrants, fueled my passion to investigate the relationship between immigration and innovation in host countries. At Boston University, I have worked on research projects using the context of the STEM OPT extension to investigate this topic, further solidifying my research interest.

I am confident that my research will benefit from the NBER Innovation Research Boot Camp as I am eager to contribute to cutting-edge research on the impacts of immigration on innovation and inform policy discussions on immigration reform. My reference will be from Timothy Simcoe (tsimcoe@bu.edu), my doctoral advisor. Additionally, I have attached my curriculum vitae, a list of all completed PhD courses, and Letter of Intent for your review. Thank you for considering my application. I look forward to attending the boot camp in Summer 2025.

Sincerely,

Seungmin Yoo

# Seungmin Yoo

Boston University Questrom School of Business
595 Commonwealth Avenue, 636A
Boston, MA 02215

Email: smyoo@bu.edu

## Education

**Boston University, Questrom School of Business** August 2021 – Present
Ph.D. in Business Administration (concentration: Strategy & Innovation)

**New York University, Graduate School of Arts and Science** May 2020
M.A. in Economics

**Kyung Hee University, School of Management** February 2018
B.B.A in Business Administration

## Research Interests

Technological Innovation; Immigration & Innovation, Human Capital, (Micro-)Geography of Innovation, Inventors, Knowledge Diffusion, Labor Economics

## Research in Progress

**working titles*

"The Impact of Temporary Student Visa Extensions on Patenting: Evidence from STEM OPT" (in preparation for submission)

- *Finalist*, Three Minute Thesis, Boston University, 2023

"Match Quality, Task Specialization, and the Impacts of the STEM OPT Extension" (with Megan MacGarvie and Shulamit Kahn; draft available)

"The Impact of First-time Immigrant Inventors on the U.S.'s Global Patent Collaboration Network" (with Jeffrey Furman; data analysis stage)

"The Impact of Consecration Effects in Innovation: Evidence from top U.S. Inventors" (with Gino Cattani and Deepak Hegde; data cleaning stage)

## RA Expereience

Full-Time Research Assistant, Pre-Doctoral Program July 2020 – May 2021
*UCLA, Anderson School of Management*

- Professor Jennifer Kao: economic drivers of innovation in the pharmaceutical industry
- Professor Christopher Poliquin: gun-related phenomena and policies
- Professor Melanie Wasserman: gender issues in academia and industries

Research Associate Spring 2017
*Kyung Hee University, School of Management*

- Professor Antonio K.W. Lau: analysis of innovation systems in Korea, China, and Japan

## TA Expereience

Teaching Assistant — Spring 2024
*Boston University, Questrom School of Business*
- Professor Esther Leibel: Strategy, Innovation, and Global Competition (undergraduate course)

Teaching Assistant — Spring 2020
*New York University, College of Arts and Science*
- Professor Viplav Saini: Industrial Organization (undergraduate course)

Teaching Assistant — Spring 2016
*Kyung Hee University, School of Management*
- Professor Joseph S. Cabuay: International Human Resource Management (undergraduate course)

## Honors and Fellowships

Doctoral Fellowship, Boston University Questrom School of Business — August 2021 – Present
Pre-Doctoral Fellowship, UCLA Anderson School of Management — July 2020 – May 2021
Dean's List, Kyung Hee University — Spring 2017, Fall 2016
Superiority Scholarship, Kyung Hee University — Fall 2016, Spring 2015

## Paper Presentations

"Match Quality, Task Specialization, and the Impacts of the STEM OPT Extension" (with Megan MacGarvie and Shulamit Kahn)
- 2024 Boston University, Strategy & Innovation Department Brown Bag Seminar, Boston, MA

"The Impact of First-time Immigrant Inventors on the U.S.'s Global Patent Collaboration Network" (with Jeffrey Furman)
- 2024 Boston University, Strategy & Innovation Department Brown Bag Seminar, Boston, MA

"The Impact of Temporary Student Visa Extensions on Patenting: Evidence from STEM OPT"
- 2024 Migration & Organizations Conference, Philadelphia, PA
- 2024 East Coast Doctoral Conference, New York, NY
- 2023 & 2022 Boston University, Strategy & Innovation Department Brown Bag Seminar, Boston, MA

## Skills

Programming: R (proficient), Stata (advanced), Python (intermediate), LaTex (intermediate)
Language: Korean (Native), English (Fluent)

## Service

Brown Bag Seminar Organizer — Fall 2023-Spring 2024
*Boston University, Questrom School of Business*

Strategy & Innovation Department Social Event Organizer — Fall 2024
*Boston University, Questrom School of Business*

Education and Training Assistant, Sergeant (E-5) — April 2012 – April 2014
*17th Fighter Wing, Republic of Korea Air Force*

## Completed PhD courses

**Innovation & Entrepreneurship** Economics of Ideas, Innovation, & Entrepreneurship; Research Seminar in Technology Strategy and Innovation; Empirical Studies of Innovation and Digitization; Theoretical and Empirical Perspectives on Entrepreneurship

**Econometrics & Statistics** Topics in Advanced Econometrics; Causal Inference for Management Research; Advanced Econometrics I; Advanced Statistics for Economists; Introduction to Computational Economics

**Microeconomics** Topics in Theoretical Industrial Organization; Topics in Industrial Organization; Advanced Microeconomic Theory; Microeconomic Theory

**Strategy & Management** Advanced Topics in Strategy; Foundations of Strategy; Strategy; Macro Organization Theory; Field Methods Seminar; Philosophy of Science; Behavioral Science Writing Seminar

**Letter of Intent**

My research focuses on the role of immigration in driving innovation, as highlighted in my cover letter. I am eager to participate in the NBER Innovation Research Boot Camp to further develop my understanding of this complex relationship, particularly regarding the impact of immigrants' skills, experience, and networks acquired in host countries.

While a substantial portion of immigrant STEM workers enter host countries initially as students, the economic impacts of policies easing visa access for these students remain largely unexplored (Ganguli and MacGarvie, 2024). I address this gap by two research projects leveraging the 2008 implementation of the STEM Optional Practical Training extension in the U.S., which grants foreign STEM graduates an additional 17 months of work authorization. The first project analyzes the policy's impact on the employment of immigrant and native inventors. Using inventors' name-based ethnicity as a proxy for their nationality and a difference-in-differences approach, I show that the number of first-time ethnic inventors increased by 24.6-40.7% in areas within 20 miles of R1 universities relative to other areas after the policy change. This increase did not displace native inventors and raised the likelihood of a first-time inventor having an ethnic name by 4.4-6.7% in the affected areas. In the second project, co-authored with Megan MacGarvie and Shulamit Kahn, we examine the policy's long-run effects on the skill-task match quality, task specialization, and wage of workers. By a triple-differences approach on a sample of workers with U.S. master's degrees earned between 1995 and 2019, we find that the policy increased affected temporary residents' engagement in R&D and computer programming, significantly improving their skill-task match quality compared to both U.S. natives' and unaffected temporary residents'. However, they experienced a wage decrease, while the policy had little impact on U.S. natives in general.

Working on these projects that are focused on immigration's impact on host countries led me to wonder about returning immigrants' effects on home countries. Therefore, I am particularly interested in learning more about how immigrants' skills, experience, and networks acquired in host countries contribute to this process. I also would like to receive feedback on my research from experienced researchers like Ina Ganguli. These will solidify my foundation for future research.

**Boston University** Questrom School of Business
595 Commonwealth Avenue
Boston, Massachusetts 02215

February 6, 2025

Dear Organizers,

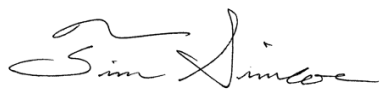
I am pleased to recommend Seungmin Yoo for the 2025 NBER Innovation Research Boot Camp. Given his research interests, and his stage in the PhD program, Seungmin is positioned to benefit from this event and to be a valuable contributor.

Seungmin has several research projects related to the links between immigration policy and innovation. His most developed paper estimates the impact of the STEM OPT extension (which provides short-term work extensions for foreign students trained in the U.S.) on U.S. patenting. It uses a clever measurement strategy of looking for first-time inventors with ethnic surnames located near R1 Universities.

Seungmin has taken several seminar courses in entrepreneurship and innovation at Boston-area schools, and is reasonably well versed in relevant literature. This boot camp will provide a nice opportunity for Seungmin to interact with faculty and other doctoral students, and to refine his research ideas. I am sure that he would be an engaged, valuable contributor to the sessions.

Please feel free to reach out with any additional questions.

Best regards,



Timothy Simcoe
David J. McGrath Jr. Professor of Strategy and Innovation
Boston University Questrom School of Business