Dear Members of the Selection Committee,

I am writing to apply for the tutorial on Digital Economics and Artificial Intelligenc, organized by the National Bureau of Economic Research. I am a fourth-year Ph.D. student in Economics at the University of Chicago, specializing in Macroeconomics and Spatial Economics.

My research examines how adoption of information and communication technologies (ICT) by firms affects their geographical footprint, internal organization, and, ultimately, the spatial distribution of economic activity. Currently, I have two projects on this topic.

In the first project which eventually became my third-year paper, I study how advances in ICT that lower the span of control of multi-city service firms reshape their location decisions. I document that since the 2000s top service firms have increasingly expanded into smaller cities while also increasing density of their branches in the largest cities. To understand how changes in firms' sorting affect the distribution of economic activit, I develop a general-equilibrium model in which heterogeneous multi-branch firms that are subject to span-of-control constraints on the number of branches. I show that, in theory, falling spatial-management costs can generate both the observed firm expansion patterns and the recent growth of smaller cities. This mechanism is consistent with rising investment in scale technologies by large service firms. Currently, I am working on quantifying the model to understand the contribution of this mechanism to the changes in the size distribution of cities.

In the project that I am currently developing, I am investigating how ICT adoption affects firm geography of knowledge-intensive activities. Advances in ICT have transformed firms' ability to manage complex, geographically dispersed operations, yet we know little about how these technologies reshape the internal spatial organization of firms. Anecdotal evidencefrom firms like AstraZeneca and Unileversuggests that ICT also changes firms' core productivity by allowing them to fragment management, R&D, procurement, and other knowledge-intensive functions across different locations. The goal of the project to use job positing data to understand what drives that changes in organization, whether it is cost savings, knowledge spillovers, or access to diverse talent.

While so far my research has focus on the effect of ICT on firms decisions, I would like to expand my understanding of the broader implications of digital technologies. I believe that participating in the NBER workshop would be an ideal next step, giving me greater exposure to current research and cutting-edge methods that directly align with my work.

Thank you for your consideration. I look forward to the opportunity to participate and

to engage with others in the research community.

Sincerely,
Daniil Iurchenko

Contact Information:

- Personal email: diiurchenko@gmail.com or diurchenko@uchicago.edu.
- Personal phone: +1(718)501-7890.
- Committee chair: Esteban Rossi-Hansberg. Rest of the committee is TBD.

Daniil Iurchenko

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Education

2022–2028	University of Chicago Ph.D. in Economics
2019–2020	Barcelona School of Economics Master Degree in Economics and Finance
2015–2019	Higher School of Economics B. A. in Economics

Research Interests

Spatial Economics, International Trade, Macroeconomics

Working papers

"Internal Trade Barriers In India" (with Prabhat Barnwal, Jonathan Dingel, Pravin Krishna, and Eva van Leemput)

Presentations and Workshops

2024	Annual World Bank Conference on Transport Economics
2025	NBER Het-Agent Macroeconomics Workshop; ITEA 2025 (Northwestern)

Fellowships and Awards

2023	Lee Prize (top score on macroeconomics Core Exam), University of Chicago
2019	Awarded full fee waiver for Master in Economics program in BSE
2018–2019	State Academic Scholarship for noteworthy academic achievements
2018	First place in Student Research Paper Competition organized by HSE

Research Positions

2024	Research Assistant for Prof. Esteban Rossi-Hansberg, University of Chicago
2023	Research Assistant for Prof. Felix Tintelnot, University of Chicago
2020–2022	Research Professional for Prof. Jonathan Dingel, University of Chicago
2018	Research Assistant for Prof. Alexander Muravyev, Higher School of Economics

Teaching Positions

Winter 2025	TA in Spatial Economics (PhD), Prof. Esteban Rossi-Hansberg
Fall 2024	TA in International Macro and Trade (PhD), Prof. Rodrigo Adao
Winter 2024	TA in Theory of Income II (PhD), Prof. Mikhail Golosov
Fall 2023	TA in Theory of Income I (PhD), Prof. Nancy Stokey

Refereeing Activity

Journal of Political Economy (×1)

Skills

Programming	Julia, R, STATA, Python
Technology	Make, Unix, Git, LaTeX
Languages	Russian (Native), English (Fluent)