Cover Letter: NBER Innovation Research Boot Camp 2025

Dear Innovation Research Boot Camp panel members,

Please see on the following pages my application for the NBER Innovation Research Boot Camp 2025, including:

1. Application Essay
2. Curriculum vitae including a list of courses

The application will also be accompanied by a recommendation letter from Yian Yin, assistant professor at Cornell Information Science.

My contact details are as follows:

Email: Trlifaj_Simon@phd.ceu.edu

Phone: +420 776 202 343 (GSM / WhatsApp / Signal)

Address: Zentagasse 13/27, 1050 Vienna, Austria

Sincerely,

Šimon Trlifaj

Application Essay: NBER Innovation Research Boot Camp 2025

Šimon Trlifaj

Throughout my policy experience in the European Commission and academic research at Cornell and Central European University, I am deeply interested in finding policies that encourage and direct innovation to address today's most pressing crises. I am eager to participate in the NBER boot camp to deepen my understanding of innovation processes from top researchers in the field, and to engage with the community on the subject.

My research uses unique large-scale granular datasets to examine innovation systems and the intended and unintended effects of policy on those systems. It leverages advances in machine learning and econometrics to investigate: (1) the distributional effects of market structure in innovation, and (2) the political economy of business transparency:

1. What are the distributional effects of market structure on innovation? The innovator's dilemma predicts that startups seek new consumer niches, whereas incumbents linger in established value chains and consumer groups. My work with Yian Yin (Cornell Information Science) finds evidence that this also translates into startups innovating for underrepresented groups in the society, including using difference-in-difference design.

2. What are the effects of transparency and secrecy on innovation? My second project leverages unique web-scraped dataset of all wireless-capable devices on the U.S. market to study a sudden increase in government transparency. It finds a significant increase in follow-on innovation in exposed technologies using regression discontinuity and difference-in-difference designs.

I believe that my academic record, policy-making experience, and understanding of political procedures would enrich the discussions in the boot camp—and contribute to as much as benefit from the condensed week of academic excellence and a vibrant community at the boot camp.

Šimon Trlifaj

Vienna, Austria simontrlifaj@gmail.com +420 776 202 343 (GSM, WhatsApp, Signal)

Overview

Innovation deeply impacts society. I research the impact of policy on innovative behavior of firms with novel large-scale datasets and advanced methods from econometrics, data science, and computational social science. My work informs academics and practitioners in industrial economics, innovation policy, political economy, and science of science and innovation.

Education

Central European University (Vienna, Austria)
PhD in Political Science: Public Policy Track *Sep 2021 – Sep 2025 (exp.)*

- Dissertation: 'The Effects of Policy on Secrecy in Innovation'.
- Selected coursework: Agent Based Models, Data Mining and Big Data Analytics, Scientific Python, Big Data for Public Policy, Research Design, Research in Global Governance, Domestic Politics in the Global Economy, Public Policy and Public Administration, Survey Methodology.

Master of Public Administration *Sep 2016 – Jul 2018*

- Thesis: 'How Knowledge Becomes a Public Good: Permanency, Patents, Secrecy' (empirics in R).
- Selected coursework: Economic Analysis, Economics of Regulation, Advanced Impact Evaluation, Global Political Economy, Public International Law in Argument and Practice, Thinking Experimentally about Policy, Corruption, Corruption Control and Global Governance.

Charles University (Prague, Czechia)
Bachelor in Economics and Finance *Oct 2011 – Jun 2016*

- Thesis 'Patent Trolls: Do Their Patents Differ?' (empirics in Stata).
- Selected coursework: Econometrics (two term), Macroeconomics (two term), Microeconomics (two term), Mathematics (four term), Institutional Economics, Comparative Economics, Stata for Economists.

Research and Policy Experience

Cornell University (Ithaca, New York, U.S.)
Visiting Researcher *Aug 2023 – Dec 2023*

- Visiting with Yian Yin, an assistant professor at the Information Science Department focusing on Science of Science and Innovation.
- The collaboration continues towards a paper on startups and the direction of innovation (see below).

European Commission (Brussels, Belgium)
Economic and Policy Analyst *Oct 2019 – Sep 2021*

- Managed projects in DG Research and Innovation on monitoring and evaluation of the Horizon Europe research program.
- Pioneered analysis of patents in the research program and led a project on continuous impact monitoring.
- Seconded to Secretariat-General and DG GROW as part of the Junior Professional program. Worked on analysis of barriers to the single market.

Trainee *Mar 2023 – Aug 2023*

- Analyzed the network effects of the Widening program, which aims to include less innovative regions in European research and innovation.

City of Prague (Prague, Czechia)
Advisor to the Vice-Mayor for Finance *Aug 2018 – Mar 2019*

- Analyzed the impact of cross-cutting issues from property taxes to teacher pay.
- Pioneered a new workflow for analysis of city council draft decisions.

Central European University (Budapest, Hungary)
Research Assistant (part-time) *Nov 2017 – Mar 2018*

- Helped encode a database of randomized controlled trials. Resulting paper analyzes the political economy of policy evaluation. 10.1016/j.jce.2020.09.002

Junák – Czech Scouting (Prague, Czechia)
Group Leader (volunteer) *Oct 2008 – Jul 2016*

- Led teams of volunteers to organize education experience for up to 60 participants.

Peer-reviewed Publications

Trlifaj, Š. (2023). The alienability of innovation: evidence from patent transfers. In *Economics of Innovation and New Technology* (Vol. 33, Issue 7, pp. 891–925). 10.1080/10438599.2023.2261871

Corduneanu-Huci, C., & **Trlifaj, Š.** (2024). Freedom of information acts (FOIAs) and government accountability. In *Elgar Encyclopedia of Corruption and Society* (pp. 115–119). 10.4337/9781803925806.ch25

Other Publications

European Commission. Directorate General for Research and Innovation. (2023). *Newcomers in EU R&I programmes: main trends in Horizon 2020, first evidence from Horizon Europe*. Publications Office. (Co-authored institutional publication.) 10.2777/911220

Kadunc, M., & **Trlifaj, Š.** (2020). Patents in the Framework Programme. In *Keeping our eyes on the Horizon: monitoring flash series: a Horizon 2020 monitoring report* European Commission. (pp. 69–83). 10.2777/303024

Ongoing Projects

Startups and the Direction of Innovation (in progress, to be submitted to *Science*)
with Yian Yin, Cornell University

Transparency, Secrecy, and Innovation (manuscript)

Awards and Scholarships

Fulbright Postgraduate Researcher Scholarship *2024*
Fulbright Commission, Czechia fulbright.cz

Academic Achievement Award for First-Year PhD students *2023*
Central European University, Austria ceu.edu

New Economic Talent: TOP 15 shortlist *2019*
CERGE-EI, Czechia cerge-ei.cz

Outstanding Academic Achievement Award *2018*
Central European University, Austria ceu.edu

Visegrad Scholarship *2017*
International Visegrad Fund visegradfund.org

Teaching

Introduction to Social Science Statistics – Math Refresher *Fall 2024/25*
Instructor, *Central European University*

– Designed and taught a mathematics and statistics refresher for incoming MA students.

Economic Analysis for Public policy *Winter 2022/23*
Teaching Assistant, *Central European University*

– Conducted weekly student consultations and a review session.
– Taught a lecture on the economics of innovation.

Invisible University for Ukraine *Spring 2021/22*
Student Mentor, *Central European University*

Conference and Workshop Presentations

Competition and Innovation Summer School *2024*
Transparency and Deregulation in Wireless Devices: Evidence from FCC Product Authorization

European Political Science Association Annual Conference *2022*
The Alienability of Innovation: Evidence from Patent Reassignments

International Public Policy Association IWPP3 *2022*
The Alienability of Innovation: Evidence from Patent Reassignments

Further Training

Advanced Certificate in Data Science *2023*
Central European University, Department of Network and Data Science ceu.edu

Economics of Ideas, Science and Innovation *2022*
Institute for Progress ifp.org

Patent Law *2020*
University of Pennsilvania via Coursera.org upenn.edu

Writing in the Sciences *2015*
Stanford University Online stanford.edu

Democratic Development *2014*
Stanford University via Coursera.org coursera.org (via archive.org)

Skills

Methods: Advanced experimental (RCT), quasi-experimental (difference-in-differences, discontinuity design, instrumental variable design, 2SLS, synthetic control, encouragement design) and observational econometrics (time-series, panel data, survival analysis), advanced data science (web scraping, fuzzy matching, support vector machines, [Post-] Lasso and Ridge regressions, decision trees and random forests, topic modeling, factor analysis), large language models (vector embeddings, GPT API), survey design, agent-based modeling.

Databases: EU research and innovation projects (CORDIS), PatentsView, USPTO, PATSTAT, Google BigQuery, NielsenIQ Consumer Panel, GS1 and UPC codes, ORBIS and ORBIS IP, Crunchbase, Open Corporates, OpenStreetMap API, Open Food Facts API, The Movie Database API, FCC product authorizations, Amazon products.

Software: Python, R, Stata, SQL, Adobe CC, LaTeX.

Languages: English (C2), French (B1), Czech (native).

Coursework

PhD courses: Agent Based Models, Data Mining and Big Data Analytics, Scientific Python, Big Data for Public Policy, Research Design, Diving in the Digital Public Space: From individual digital traces to collective social and political dynamics, Research in Global Governance, Domestic Politics in the Global Economy, Public Policy and Public Administration, Survey Methodology

Selected MA courses: Economic Analysis, Economics of Regulation, Advanced Impact Evaluation: Management and Methodology, Global Political Economy, Health Policy, Public International Law in Argument and Practice, Thinking Experimentally about Policy, Corruption, Corruption Control and Global Governance, Just Data

Selected BA courses: Econometrics 1+2, Macroeconomics 1+2, Microeconomics 1+2, Mathematics 1–4, Theory of Rules and Economies in Transition, Institutional Economics, Comparative Economics, Ethics and Economics, Stata for Economists

Selected online courses: Economics of Ideas, Science and Innovation, Institute for Progress (2022), Writing in the Sciences, Stanford University (2015, with distinction), Democratic Development, Stanford University via Coursera.org (2014)

Yian Yin
Assistant Professor
Cornell Ann S. Bowers College of Computing & Information Science
Department of Information Science
Email: yy994@cornell.edu
Web: www.yianyin.net

Cornell Bowers CIS
Information Science

Dear Colleagues,

This letter is to confirm my enthusiasm for Mr. Šimon Trlifaj's application to the NBER Innovation Research Boot Camp 2025. I regard him as an exceptional young scholar in the economics of innovation and believe he will be a terrific addition to the Boot Camp.

As an Assistant Professor of Information Science at Cornell University, my research interests lie in the science of science and innovation. Before joining Cornell, I spent seven years at Northwestern, collaborating with Ben Jones and Dashun Wang. Among the many Ph.D. students I had the pleasure to work with at Northwestern and Cornell, Šimon clearly stands out as a highly promising young scholar.

I began working with Šimon last summer when he visited Cornell as a Fulbright scholar. During his stay, Šimon led a novel project examining the role of start-ups in the direction of innovation. This ambitious project covered several large-scale innovation datasets, ranging from patents to drugs to commercial products. Despite the project's complexity, Šimon made substantial progress in just a few months. He not only analyzed the data using advanced methods such as text embedding but also identified a clean natural experiment for identification. From our daily interactions, I am convinced that he is an extremely motivated, dedicated, and bright researcher with a broad knowledge of the innovation literature. Importantly, he has demonstrated a unique combination of knowledge in economic theory, policy practice, and data science, making him an especially insightful contributor to my lab.

Besides his research potential, Šimon also has a unique career trajectory, having served in the European Commission as an analyst specializing in research and innovation. I understand that he is keenly interested in contributing to the European innovation policy sphere after completing his current Ph.D. at Central European University. In my opinion, his focus on policy impact and international perspectives makes him a truly unique candidate among the pool of applicants. I have no doubt that his participation would greatly benefit not only his academic growth but also that of other participants.

Thank you for your consideration.

Sincerely,

Yian Yin
Assistant Professor of Information Science
Bowers College of Computing & Information Science
Cornell University