Xizhao Wang

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Education

Northwestern University - Kellogg School of Management **2020-present**
Ph.D., Managerial Economics and Strategy, Advisor: Prof. Ben Jones

The University of Chicago - Harris School of Public Policy **2018-2020**
M.A., Public Policy (Honors), GPA Rank: 1/25

Southwestern University of Finance and Economics **2014-2018**
BEcon., Economics (Honors), GPA Rank: 1/122

ISCTE - Instituto Universitrio de Lisboa **2016**
Exchange Student

Course Information

Completed PhD courses **Northwestern University**

Mathematical Methods for Economic Theory
Economics 410-1&2&3, Microeconomics I, II, III
Economics 480-1&2&3, Econometrics I, II, III
MECS-560-1, Static Optimization in Economics
MECS-560-2, Dynamic Optimization in Economics
MECS-560-3, Research in Economics
MECS-570-1&2, Economics of Organizations I, II
MECS-549-1&2, Technology & Innovation I, II
ECON 425-1, Development Economics
FINC-586-2&3, Corporate Finance II, III
KPHD-540-0, Computational Social Science: Methods and Applications
MECS-499-0, Independent Research

Completed PhD courses **The University of Chicago**

Political Economy I, II
Advanced Microeconomics for Policy Analysis I, II
Applied Econometrics I, II
Social Interactions and Inequality

Research Interests

Applied Microeconomics, Economics of Innovation, Economics of Technology, Entrepreneurship, Science of science, Public Policy

Working Paper

"Innovation Commercialization and Patent Disclosure"

Present: Applied Micro Lunch (Northwestern Econ, 2023), International Conference

Science of science and innovation (2023, scheduled)

This paper studies how the commercialization of innovation affects patent disclosure. I measure the innovation disclosure by using textual analysis methods to construct the readability scores of each patent's detailed description, claims, and brief summary texts. To identify the causal impact of innovation commercialization on innovation disclosure, this paper uses the difference-in-difference approach. First, this paper uses the 1980 Bayh-Dole Act which gave universities a potential realization of the economic benefits of the invention as an exogenous shock and leverages the readability change of university patents and non-university patents. Second, this paper considers the technology transfer office establishment as an exogenous shock of innovation commercialization to patent inventors. This paper finds a decrease in readability in patent detailed description by inventors affiliated with universities after the 1980 Bayh-Dole Act and the TTO's establishment. Such decrease in readability did not apply to patent claims and patent brief summary. This paper points out a possible strategic innovation disclosure behavior, a finding that when inventors foresee patent commercialization, they would strategically decrease the readability of patent detailed descriptions and lower openness in sharing how to make and use the invention.

"Knowledge as Output and as Input: Artificial Intelligence and Quantum Computing" with Daniel Spulber

Present: AI@NU(Northwestern, 2023), International Industrial Organization Conference (2023), Economics of QIT Conference (2023)

This paper explores the contributions of Artificial Intelligence (AI) and Quantum Computing (QC) knowledge capital to the production of knowledge and the production of output within firms. Using the Artificial Intelligence Patent Dataset from the USPTO, the study matches AI and QC patents with firm characteristics data from the CRSP/Compustat Merged database to quantify the AI and QC knowledge adoption and the impact of these forms of knowledge capital on firms. We present five stylized facts about knowledge as an input and as an output. Our regression findings indicate that both AI and QC knowledge stocks are positively associated with their own knowledge production, with AI knowledge stocks positively associated with QC innovation but not vice versa. The impact of the two forms of knowledge capital on firm productivity and growth differs, with AI potentially positively correlating with firm output while QC is more of an investment not impacting output immediately. Our study implies that knowledge capital has heterogeneous effects on both knowledge and output production. Rather than treating all types of knowledge capital as homogeneous, it is important to consider their potential differences.

Research Experience

Research Assistant to Prof. Daniel Spulber, Northwestern University **2022-2023**

Research Assistant to Prof. Richard Hornbeck, The University of Chicago **2019-2020**

Research Assistant to Prof. Steven Durlauf, The University of Chicago **2019-2020**