Cheuk Yin Rudolph Chan

Ph.D. Candidate, Department of Economics

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February 11, 2026

Boot Camp Selection Committee

NBER Innovation Research Boot Camp

Dear Members of the Selection Committee,

I am a fourth-year Ph.D. candidate in Economics at Washington University in St. Louis. I am writing to apply for the 2026 NBER Innovation Research Boot Camp.

My research lies at the intersection of innovation, firm dynamics, and macroeconomics. My recent work investigates the role of ICT-related innovation in explaining the productivity slowdown in the US. Using text analysis, I document a U-shaped pattern in similarity among ICT patents, bottoming out in the early 2000s, and find a strong negative association between ICT patent similarity and firm-level TFP growth. In related projects, I study the (dis-)connect between firms' input and output adjustments over the life cycle and examine how firms' spatial expansion interacts with the geography of inventor collaborations.

I am particularly interested in attending the Boot Camp to deepen my understanding of frontier empirical and theoretical approaches in innovation economics and to receive feedback from leading scholars in the field. The program's focus on both rigorous empirics and theoretical foundation aligns closely with my research agenda.

My recommendation letter writer is Professor Ping Wang (Washington University in St. Louis).

Thank you very much for your consideration. I would be honored to participate in the 2026 NBER Innovation Research Boot Camp.

Sincerely,

Rudolph Chan

CHEUK YIN RUDOLPH CHAN

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EDUCATION

Washington University in St. Louis *2022 - 2028 (expected)*
Ph.D. in Economics

Hong Kong University of Science and Technology *2017 - 2022*
BBA in Economics and Information Systems (with First Class Honors)
Minor in Mathematics
Summer exchange: Fudan University (China), HSE University (Russia)

RESEARCH INTERESTS

Innovation, Firm Dynamics, Macroeconomics, Labor Economics

WORKING IN PROGRESS

ICT Diffusion, Innovation Dynamics and Productivity Slowdown (*with Yunseo Choi*) [Slides available upon request]

Young Firm Dynamics and the Mechanics of Churning in Intermediate Inputs vs. Products

The Geography of Inventor Collaboration and Firm Scope (*with Yunseo Choi*)

GRANTS, HONORS AND AWARDS

Washington University in St. Louis

2025 - Present	Weidenbaum Center Graduate Fellowship (US$5,000)
2025 - Present	Mentor of Undergraduate Research Assistants (Mentees: Rain Cao & Conor Daly)
2022 - Present	University Fellowship

Hong Kong University of Science and Technology

2023 - Present	Lifetime Member, Beta Gamma Sigma HKUST Chapter
2022	Leading Role, HKUST BBA (ECON) Promotion Video
	First Runner-up, HKUST ECON-CEP UG Virtual Research Showcase
2020-2022	HKSAR Government Scholarships - Continuing Awards (HK$40,000 p.a.)
2017-2022	Dean Lists (8 times in total)
2021	Delegate, ANU Asia Pacific Week, Australia
2018-2020	University's Scholarships for Continuing Undergraduate Students (HK$5,000 p.a.)
2019	Delegate, STEP Youth Regional Affairs Dialogue, Singapore
2019	Ceremonies Honouring Students' Academic Excellence Award

RESEARCH EXPERIENCE

Hong Kong University of Science and Technology

Research Assistant for Prof. Zijun (June) Shi *2021 - 2022*
UROP Program under Supervision of Prof. Yao Amber Li *2021 - 2022*
UROP Program under Supervision of Prof. Yatang Lin *2019*

UROP Program under Supervision of Prof. Keller Franziska *2019*

Hong Kong Monetary Authority
Winter Intern, Economic Research Division *2019 - 2020*

TEACHING EXPERIENCE

Washington University in St. Louis
Teaching Assistant

- Macro Public Finance (Undergraduate or master's level) *Spring 2025 & 2026*
- Quantitative Macroeconomics Theory (Graduate level) *Fall 2024 & 2025*
- International Economics (Undergraduate level) *Spring 2024*
- Market Design (Undergraduate level) *Fall 2023*

OTHER WORKING EXPERIENCE

HSBC Insurance (Asia) Limited
Co-op Student Trainee, Investment Team *2020*

SERVICE

Referee for WUSTL Economics Graduate Student Conference *2024 & 2025*
Host for the HKUST Relocation Program in St. Louis *2023 - Present*
Student Ambassador for JUPAS Business Review *2021 - 2022*
Peer Mentor, HKUST Business School *2018 - 2019*

SKILLS

Programming	Python, R, Stata, Excel VBA, MATLAB
Language	Cantonese (native), English (proficient), Mandarin (proficient), Russian (basic)

REFERENCES

Ping Wang
Department of Economics
Washington University in St. Louis
Email: pingwang@wustl.edu

Course list

Course Name	Instructor	Grade
Fall 2022		
ECON 501 – Macroeconomics I	Rodolfo Manuelli, Yongseok Shin	A
ECON 503 – Microeconomics I	Marcus Berliant	A-
ECON 511 – Quantitative Methods I	John Nachbar	A
ECON 5161 – Applied Econometrics	Werner Ploberger	A
Spring 2023		
ECON 502 – Macroeconomics II	Francisco (Paco) Buera, Ping Wang	A-
ECON 504 – Microeconomics II	John Nachbar	A-
ECON 512 – Quantitative Methods II	Werner Ploberger	A+
CAPS-ELP 170 - Presentation Skills for Academic & Professional Settings	/	A-
Preliminary Exams Exempted by achieving course grades of A- or above in all areas		
Fall 2023		
ECON 555 - Economics of Industrial Organization I	Ian Fillmore	A
ECON 572 - Economic Growth	Rodolfo Manuelli, Yongseok Shin	B
ECON 5725 - Quantitative Macroeconomic Theory	Juan Sanchez	A
Spring 2024		
ECON 5141 - Advanced Microeconometrics	Ismael Mourifié	B+
ECON 5175 - Structural Microeconometrics	Limor Golan, George-Levi Gayle	A
ECON 572 - Economic Growth	Francisco (Paco) Buera, Ping Wang	A+
Spring 2025		
ECON 584 - Topics in Labor Economics II	Martín García-Vázquez	*Satisfactory*
ECON 8420 - The Macroeconomics of Labor Markets	Philipp Grübener	*Satisfactory*

Statement of Interest

I am a 4th year Ph.D. student in Economics at Washington University in St. Louis. My research lies at the intersection between Innovation, Firm Dynamics, and Macroeconomics, with a secondary interest in Labor Economics. I use techniques in Empirical IO and text-as-data to construct novel stylized facts, and I develop empirically founded quantitative models to evaluate mechanisms and policy counterfactuals.

My recent work studies the role of ICT-related innovation in the productivity slowdown in the US. We classify patents into ICT and non-ICT-related based on CPC codes and estimate similarity using technical bigrams extracted from patent texts. Using these measures, we document a U-shaped pattern in both contemporaneous and intertemporal similarities among ICT patents, bottoming out in the early 2000s, and this coincides with the inverted U-shape in aggregate TFP growth with some time lags. At the firm level, we find a strong negative association between ICT patent similarity and TFP growth. Motivated by a recent paper by Ina Ganguli on the validation of different LLM models in estimating patent similarity, I plan to perform more robustness checks followed by a quantitative (semi-)endogenous growth model to formalize the mechanisms underlying our empirical findings.

My other ongoing projects examine the firm growth along two dimensions: input-output churning and spatial expansion. In the first project, using confidential firm-level data, I find that the extensive margin of input churning is higher than that of product churning, with over half of occurring independently of churning on the output side. This raises questions on what drives the resource reallocation on inputs vs. outputs. In the second project, we explore the relationship between the geography of inventor collaboration and the spatial expansion of firms. We document that the knowledge production increasingly involves larger teams with members residing in different locations. Such phenomenon appears closely linked to the spatial expansion of firms and the advances in ICT in the recent decades. I am sure that Ben Jones, who is an expert in this area, could provide more insights with me.

I am very eager to participate in the NBER Innovation Research Boot Camp to deepen my understanding in fronter empirical and theoretical approaches in the field of Innovation While my training at WashU has provided a strong foundation, I have not had the opportunity to take a dedicated field course in the economics of Innovation. The Boot Camp would allow me to engage directly with the leading scholars in this field to refine the measurement and modelling strategies in my current projects. I also look forward to interacting with fellow young researchers working on related topics, as these discussions could foster valuable intellectual exchange and future collaboration. Through my strong commitment to research on innovation and my experience in combining rich microdata with structural modelling, I believe I would both benefit from and contribute meaningfully to the Boot Camp.

Washington University in St. Louis
Department of Economics
Phone: (314) 935-5632; Fax: (314) 935-4156

Confidential

February 8, 2026

To whom it may concern:

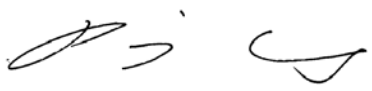
It is my pleasure to recommend my Ph.D. advisee, Mr. (Cheuk Yin) Rudolph Chan, as a strong candidate for participating in the NBER Innovation Research Boot Camp this summer. Rudolph has made significant progress on three projects of his dissertation, with Project 1 on Immigration, Skills, and Labor Monopsony, Project 2 on Young Firm Dynamics and the Mechanics of Churning in Intermediate Inputs vs. Products and Project 3 on ICT Diffusion and Productivity Slowdown. Project 3 is likely to be his job market paper, where he may benefit greatly from the Boot Camp.

In my assessment based on my 40-year academic experience, all the projects investigated by Rudolph are innovative and potentially highly rewarding for publication in high quality journals. Specifically, Project 3 investigates what drives the great productivity slowdown in manufacturing industries over the past decades. Preliminary exploration by Rudolph using various firm and patent data suggest that ICT Diffusion plays a key role: sectors with strong similarity between present and past patents (say, 5-year lags) harms innovation activities, leading to slowdown. This is because similar ideas cannot produce new novel ideas. Interestingly, such effects do not appear in non-ICT sectors. Rudolph is working on establishing more stylized facts from different aspects, as well as on investigating thoroughly the sources and mechanisms through which research similarity, ICT innovation, and sectoral productivity are interacting with each other.

Rudolph's application for joining the Boot Camp is well justified. While he can learn from the Boot Camp, his strong knowledge in innovation research can benefit his peers via active class participation and out-of-class discussion. Rudolph is at the Ph.D. dissertation proposal stage, under my supervision. He is not only talented but also hardworking, which are important characters for a successful scholar.

Judging all factors, I would recommend strongly Mr. (Cheuk Yin) Rudolph Chan for joining the Boot Camp. Should you have any questions, please feel free to contact me.

Best regards,



Ping Wang
Seigle Family Distinguished Professor &
NBER Research Associate