Nuruddin (Nur) Ahmed

CONTACT INFORMATION

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RESEARCH INTERESTS

Innovation, Economics of Innovation and Science, Digitization

EDUCATION

Ivey Business School, University of Western Ontario, London, Canada

Ph.D., Strategy, *Expected:* 2022

- Dissertation: *Technological Discontinuity, R&D Collaboration Strategies and R&D Disclosure: Evidence from Artificial Intelligence*
- Committee: Jean-Philippe Vergne, Larry Plummer and Mark Zbaracki

Central European University, Budapest, Hungary

M.P.A., Master of Public Administration, June 2016

Bangladesh University of Engineering and Technology, Dhaka, Bangladesh

B.S., Computer Science and Engineering, February 2011

- Major: *Artificial Intelligence and Machine Learning*

AWARDS & GRANTS

- Nominated, SMS Best PhD Paper Prize 2020
- Nominated, SMS Research Methods Paper Prize 2020
- PhD Research Grant, Ivey Business School 2020
- Research Grant, The Scotiabank Digital Banking Lab 2020
- John F. Rankin Doctoral Scholarship 2019-2020
- Maurice Young Centre for Entrepreneurship & VC Research Travel Grant, UBC 2019
- Best Paper in Strategic IT, Americas Conference on Information Systems (AMCIS) 2018
- Winner, Poster Competition at Wilfrid Laurier University June 2018
- Ivey Energy Policy Centre Scholarship, 2016-2017
- Plan for Excellence Doctoral Fellowship, Ivey Business School 2016 - 2020

WORKSHOP ATTENDANCE

- NBER Young Scholars Workshop on the Economics of AI September 2020
- NBER Economics of Digitization Workshop, Stanford University March 2019
- Stochastic Models, LINKS Summer Workshop, University of Kentucky June 2018
- Machine Learning for the Analysis of Text As Data, ICPSR Summer Workshop, University of North Carolina – Chapel Hill July 2017

SKILLS

- Programming: R, Python, C++
- Others: LaTeX, STATA

COURSES

- Econometrics I and II
- Special Topics in Statistics I and II
- Microeconomics I
- Strategy I and II, Non-market Strategy, Entrepreneurship
- Research Methods

Work in Progress

- The De-democratization of AI: Deep Learning and the Compute Divide in Artificial Intelligence Research
- Why do Firms Publicly Disclose Internal Research? Evidence from the AI Industry
- Technology Shocks and R&D Collaboration Strategies: How Deep Learning Changed Firm-level Collaboration Strategies in AI
- Covid-19 and Digitization: Evidence from India

Research Interest and Summary

I am broadly interested in innovation. In my dissertation, I am exploring AI in three different essays. In a working paper titled *The De-democratization of AI: Deep Learning and the Compute Divide in Artificial Intelligence Research,* I document how AI research is becoming a field of haves and have-nots due to uneven access to computing power. I use a novel dataset of 57 major computer science conferences (both AI and non-AI). By leveraging the generalized synthetic control method, a data-driven counterfactual estimator, I provide causal evidence that the rise of deep learning resulted in large firms and elite universities increased presence in AI research. This study also documents that mid-tier and lower-tier universities are being crowded out at top AI conferences.

In another working paper, I am exploring the question: why do firms participate in open science? This research is partly motivated by the observation that Apple, the notoriously secretive company, suddenly started to publish AI papers and started a research blog. I posit that firms reveal internal knowledge more when scientists have negotiating power. Using Burning Glass Technologies proprietary job posting data, and 1524 firms who have at least one AI patent, I intend to demonstrate that when firms are more dependent on AI human capital, they reveal more about their internal research to attract talents. I also explain the heterogeneity of firm-level publications for the AI industry.

With a colleague, I am collecting data from India to measure the effect of Covid-19 on digitization in India. Using a panel dataset at the firm-level, we intend to measure the impact of the pandemic on the level of digitization in India.