Nuruddin (Nur) Ahmed

Contact Information

www.nurahmed.com nahmed.phd@ivey.ca

Research interests

Innovation, Industry Evolution, Economics of Innovation, Knowledge Creation and Commercialization

Education

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

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

Central European University, Budapest, Hungary

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

- Thesis: *Technology Transfer and Innovation: Evidence From a Firm-level Survey*

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
- 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, Lazaridis Institute Entrepreneurship 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 Economics of Digitization Workshop, Stanford University March 2019
- Stochastic Models, LINKS Center Summer Workshop, University of Kentucky, Lexington, Kentucky June 2018
- Machine Learning for the Analysis of Text As Data, ICPSR Summer Workshop, University of North Carolina – Chapel Hill, NC 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

Dissertation Chapters

- 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

Research Interest and Summary

I am broadly interested in innovation and industry evolution. 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 demonstrate how the AI research is becoming a field of haves and have-nots due to uneven access to compute. I use a novel dataset of 49 major computer science conferences (both AI and non-AI). By leveraging the generalized synthetic control method, a data-driven reliable 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.