Dear Committee,

My name is Chengcheng Qu, a third-year doctoral student from Stockholm Business School, Stockholm University. I am writing to apply to attend the NBER Doctoral Workshop on the Economics of AI this September. With research interests in market microstructure, market design, and algorithmic trading, I am curious to learn how to utilize AI in empirical research and how AI will affect the economic and financial ecosystem at the workshop.

My interests in AI as a research tool came from Manuela Veloso and co-authors' study on improving prices prediction power with image and video time series forecasting. The idea of developing efficient AI based on the fact that humans process visual information better than numbers immediately intrigued me. Take this as a starting point, I would like to look into how AI predict and explain deviations from theoretical equilibrium with frictions in the real world.

Meanwhile, algorithmic and high-frequency trading (HFT) has received considerable attention in financial market microstructure research. In my working paper, I investigate the market design to protect liquidity from HFT snipers. Algorithms outperform human beings in monitoring price changes and executing orders cross markets. Given the advantages in speed and costs, algorithm trading scales up profits of a fraction of a cent per trade to billions of dollars by exploiting short-live price differences between correlated assets. The rise of algorithm-driven snipers not only aggravates adverse selection but also triggers the speed arms race in financial markets. This trend is only part of the story of how AI is shaping the structure of economics and financial markets. For this reason, I find the workshop inspiring for my ongoing and future research.

I am enclosing my CV for your information. Many thanks for your consideration. Look forward to hearing from you soon in July.

Sincerely,
Chengcheng Qu

Chengcheng Qu

chengcheng.qu@sbs.su.se | +46 (0)76 764 0482
Kräftriket 7, 114 19 Stockholm, Sweden

Education

Stockholm Business School, Stockholm University, Sweden
Ph.D. candidate in Finance, 2018 - present
Supervisors: Björn Hagströmer, Lars Nordén, and Michal Dzielinski
Coursework: Financial Market Microstructure, Microeconomics I, Econometrics I, Theoretical Asset Pricing, Empirical Asset Pricing

Stockholm School of Economics, Sweden
M.Sc. in Finance, 2015 - 2018

Southwestern University of Finance and Economics, China
B.Econ. in Finance, 2011 - 2015

Working Paper

"Market Liquidity after Banning Aggressive Proprietary Trading"
Presentations: Swedish House of Finance National PhD Workshop 2020; PhD Nordic Finance Workshops 2021

"Consolidation of Swiss Equity Markets" with Björn Hagströmer and Michal Dzielinski

Professional Experience

Resility AB, Stockholm, Sweden
Research Intern to Nordic Compass ESG Data Project, 2016

Planet Finance (Microcredit NGO), Beijing, China
Research and Project Intern, 2015

Fellowships and Awards

Jan Wallander and Tom Hedelius Foundation, and Tore Browald Foundation
Research Scholarship, 2017-2018

China Scholarship Council
Study Abroad Scholarship, 2015-2017

Research focus

market microstructure, market design, algorithmic trading

Other Skills

Software: R, LaTeX, Matlab, Stata
Languages: English (fluent), Mandarin (native), Japanese (basic), Swedish (basic)