Dear Selection Committee of the Winter Meeting of the NBER Economics of Digitization Group,

I am writing to apply to participate in the in the Economics of Digitization tutorial for economics graduate students. My name is Daniel Rock, and I am a third year Ph.D. Candidate at the MIT Sloan School of Management (my advisor is Professor Erik Brynjolfsson). For my dissertation work I am interested in researching the effects of information technology on different types of outcomes for firms. In particular, I would like to investigate how firms with digital assets (on the supply side) and digital products and services (on the demand side) differ from more traditional industrial businesses in their productivity, profitability, resource utilization patterns, and marketing strategies. The winter tutorial for economics graduate students seems like a perfect opportunity to meet and learn from some of the best researchers in the field and I would love a chance to participate.

My coursework so far has largely centered on economics and econometrics. As a student in the Information Technologies group at Sloan, my major area for my General Examinations was the Economics of Information with a minor in Statistical Learning and Econometrics. Most of my coursework has been in the Economics department at MIT. I have completed the graduate sequence in microeconomic theory (including topics in general equilibrium, game theory, decision theory, and contract theory), the graduate econometrics sequence, and courses in industrial organization. In other departments, I have completed courses in nonlinear optimization, applied network analysis and econometrics, machine learning, and the economics of digitization.

Most recently I have been working on an econometric project with Professor Sinan Aral related to identifying peer effects in product engagement for digital products with social network features. Certain features of observable social networks can help us as researchers to figure out precisely "how social" a given digital product might be. I am also beginning work with Professor Brynjolfsson investigating the causes of increasing productivity differences between firms at the "frontier" and the rest of the economy. Additionally I am working on another project with Professor Brynjolfsson and Guillaume Saint-Jacques (another student in our group) to estimate the future impact of new machine learning techniques (broadly) and deep learning (more specifically) on jobs, productivity, and profits. Finally I have also begun research into the value of human capital assets of different kinds at different firms. These latter three projects are in early stages, but my hope is that they will eventually be chapters in my dissertation.

Having completed my coursework and passed the qualifying examinations in May, I have just begun my career as a researcher and I am grateful for the opportunity to apply to this program. It would be a great privilege to attend. Thank you for your consideration.

Sincerely,

Daniel Rock

drock@mit.edu / (847) 370-3178
3rd Year Ph.D. Candidate – MIT Sloan
Office 341
100 Main St
Cambridge, MA 02142