Department of Economics
Eller College of Management
McClelland Hall, 401
1130 E. Helen Street
Tucson, AZ 85721-0108
Phone: 520-621-6224

16 October 2024

NBER
1050 Massachusetts Avenue
Cambridge, MA 02138

Dear NBER:

My name is William Brasic, and I am writing to express my strong interest in applying for the Digital Economics and AI Tutorial hosted by the NBER. I am currently a third-year economics Ph.D. student at The University of Arizona studying industrial organization under Matthijs Wildenbeest, Ashley Langer, and Mo Xiao. My academic training, eagerness to learn, and research agenda align exceptionally with the goals of this tutorial.

My Ph.D. studies thus far has given me a robust foundation in industrial organization, machine learning, and applied econometrics. I have taken multiple field courses in both industrial organization and econometrics, while going outside the economics department to study AI and machine learning in depth. I have been increasingly experimenting with the applications of machine learning to economic models and believe my interdisciplinary skill set in computer science and economics lends me to be a great candidate for this opportunity.

My current research investigates the effects of pricing algorithms on competition, a topic of growing interest within academia as well as in the government and private sectors. In a current working paper, I examine whether asymmetric reinforcement learning–based pricing algorithms can effectively learn to engage in tacit collusion within a repeated Bertrand-Markov pricing environment. In a subsequent work, I extend this framework by adding in a platform who uses a reinforcement learning-based recommendation system to see if this mitigates algorithmic collusive tendencies. For my job market paper, I plan on performing an empirical study involving a market where pricing algorithms are likely used. Broadly, I am interested in understanding the implications of emerging technologies, such as machine learning, on market dynamics and consumer welfare. Given the strong correlation between my research and digital economics, I would be greatly excited to participate in this tutorial.

I am eager to learn more about how AI is changing the economic landscape. Being interested in contributing to impactful research at the intersection of AI and economics, I believe this opportunity would help me acquire practical skills to assist me in this goal. If you have any questions about my qualifications or interest in this tutorial, please feel free to contact me.

Kind regards and all the best,

William Brasic
Doctoral Student in Economics
The University of Arizona
wbrasic@arizona.edu