Application for the NBER Digital Economics and AI Tutorial, February 11-12 2026, Stanford University

Contact Information
Juliette Coly
PhD Student in economics at Stanford University
jcoly@stanford.edu
650-709-6400

Course of graduate study
I am currently a fourth-year PhD student in economics at Stanford University. Besides the core first-year economics curriculum, I have taken classes in econometrics and machine learning, political economy, and spatial economics.

I took some of the core machine learning and statistics Stanford classes, such as CS229 which covers traditional machine learning, CS 224N about Natural Language processing with Deep Learning, EE364A on convex optimization. I also took classes in the core PhD statistics curriculum such as STATS310 on measure theory, STATS300A which covers statistical theory in finite sample, and STATS300B which covers asymptotic theory.

I also took classes in political economy, particularly ECON220 with Matthew Geztkow and Andy Hall. I took the urban economics class ECON 267 taught by Adrien Bilal and Benny Kleinman.

Research interest
I am doing research in economic history, political economy, and spatial economics. I am also interested in the economic and political impact of AI.

I am working on two main projects. My first project covers the impact of transport infrastructure on nation-building and state capacity. I study the impact of the railroad expansion in 19th-century France on linguistic homogeneity and police interventions on the French territory. Using the centralized nature of the network as a source of exogenous variation, I find that municipalities better connected to the railroad network tend to speak more standard (Parisian) French. I also find a gravity-like result: two municipalities that are better connected by the railroad are more linguistically similar. The results are robust to controlling for bird-eye distance and various pre-railroad variables on population, literacy, and local GDP.

The second one, joint with Prof. Lukas Althoff, uses text analysis to measure the anti-AI sentiments arising from recent layoffs (such as the October 2025 Amazon layoff). I am categorizing the content of LinkedIn posts following the layoffs with a topic model approach. This is a way to capture anti-technology

attitudes.

My interest in the digital economy and AI is two-fold. First, I am interested in the environmental impact of data centers with a spatial perspective. I am wondering about the impact of the multiplication of data centers on the local electric grid and whether this spatial allocation is viable. Second, I am also curious about the impact of the use of AI on social and political cohesion. Much anecdotal evidence suggests that people increasingly rely on AI for emotional support instead of relying on their friends or communities. This may increase the already-existing information bubble where people are self-reinforced in their beliefs. I'd like to study whether AI has an impact of information silo and the effect of these silot on political and social outcomes.

PhD Advisor: Ran Abramitzky

As such, the NBER tutorial on Digital Economy and AI would be a great opportunity to have a better understanding of the frontier economic research on the topic and to interact with researchers of this field. Thank you for considering my application.