

## Research Statement

I am an applied economist deeply interested in the empirical research on environmental issues and their relationship with human development. My work primarily focuses on identifying causal relationships using quasi-experimental econometric methods and large datasets. In recent years, I have also developed an interest in data science integrating machine learning techniques. My goal is to uncover meaningful insights from data and to tell stories with words and numbers. My research centers on the provision of public goods, addressing topics such as environmental quality, climate shock, agricultural development, urban structure, and social equity.

My collaborated work in the postdoctoral program with Dr. Wifag Adnan and Dr. Veda Narasimhan, *Climate Shocks and Internal Migration in Indonesia*, served as my job market paper, focus on finding the adaptation strategies of rice farmers in Indonesia towards climate shocks such as droughts, monsoon delays, and floods. Combining satellite data with household surveys, we found that both extreme wet season droughts and monsoon delays lead farmers to less harvest and income, and more likely to quit farming, while flood that damaged cropland tend to drive migration towards urban areas. We also found that rice households are less likely to migrate to urban areas compared with other households and liquid wealth makes migration easier when desired. We plan to conduct our own survey on Indonesia farmers to check the mechanism and validate our findings.

My co-authored working paper with Dr. Sharad KC, *Fake Reviews: Laboratory Evidence on Efficiency, Trust, and Trustworthiness*, examines review systems in digital markets within a laboratory experimental setting. We found that, under our experimental design, ratings did not improve seller trustworthiness, whereas the fake review treatment improved market efficiency by allowing buyers to exit the market. This surprising finding highlights the care required when designing rating systems—namely, that review systems only foster trust and trustworthiness when sellers are strongly rewarded for honesty and reliably identified by the system.

An earlier co-authored paper with Dr. Stefano Carattini, Dr. Kenneth Gillingham, and Dr. Erez Yoeli was published in the *Journal of Economic Behavior and Organization*, titled *Peer-to-peer solar and social rewards: Evidence from a field Experiment*. This research conducted a randomized controlled trial on Facebook to explore preferences for solar energy services in two Massachusetts cities. Our findings demonstrate how observability can encourage pro-environmental behavior. Specifically, we discovered that a social reward treatment, which enables customers to share their environmental contributions on social media, significantly boosts renewable energy preference.

One of the chapters of my Ph.D. dissertation, published in the *Journal of Environmental Management*, titled *Location choice of Air quality monitors in China*, investigates the strategic placement of air quality monitors across China. We discovered that locally controlled monitors

tend to be less strategically positioned than centrally managed ones, largely due to potential political punishment tied to the monitor readings. This collaborative study underscores the differing priorities of central and local governments, providing valuable insights into regulatory behaviors and environmental governance. The potential to extend this research to other countries is significant, given the public availability of most of the data.

Going forward, I plan to keep digging into quantitative analysis and causal inference, especially focusing on environmental issues utilizing both experimental and quantitative methods. My research will cover a range of topics, from traffic congestion to how people's risk preferences change in response to climate change.

I am dedicated to merging advanced econometric methods with data science to tackle complex environmental and social policy questions. My ultimate aim is to provide actionable insights on externality, public good provision from a microeconomics and data point of view.