Name: Prashant Garg
Email: prashant.garg@imperial.ac.uk
Website: www.prashantgarg.org

Current Affiliation: PhD Candidate, Economics and Public Policy, Imperial College Business School, Imperial College London

For 2024-2025 academic year, I am also visiting University of Cambridge, Department of Computer Science, hosted by Professor Neil Lawrence. I am also a part-time research consultant with International Finance Corporation (IFC), World Bank Group, hosted by Professor Ralf Martin.

Course of Graduate Study and Enrollment Years:
I am currently in the fourth year of my PhD program (enrolled since September 2021) at the Economics and Public Policy Department, Imperial College Business School, Imperial College London. I completed an MSc in Economics at University College London (UCL) in 2019. My PhD coursework and research training have focused on applied microeconomics, quantitative methods, machine learning, natural language processing (NLP), and the intersection of economics with digital technologies and AI.

Research Interests:
My research interests lie at the intersection of AI, big data, and applied microeconomics, with a special emphasis on understanding how new computational tools and large-scale, text-based data can enrich our understanding of economic phenomena. I apply cutting-edge NLP and large language models (LLMs) to measure and map economic knowledge, production networks, and online scholarly communication patterns. I integrate these computational methods with causal inference techniques to study digital communication, knowledge diffusion, and production structures. I also investigate how scientific discourse, including political and policy-related expression by scholars and the media, influences public perceptions, policy debates, and the future direction of research in economics.

Relevant Research Projects:

1. **Political Expression of Academics on Social Media (Joint with T. Fetzer). Forthcoming at Nature Human Behaviour.** Project website; Working Paper
    - *Project Description:* Leveraging a massive dataset of 100,000 academics on Twitter (X), we quantify how scholars express politically salient views and how these differ from public discourse. Using advanced NLP classification, we show that academics systematically diverge from the general population in tone, toxicity, and topics. Our research, forthcoming in *Nature Human Behaviour*, highlights the role of digital platforms in potentially shaping public perceptions of academia and influencing policy debates.
    - *Future Direction:* I plan to integrate the framework developed in "Causal Claims in Economics" into this line of work. By comparing causal statements in working papers with the claims academics make on social media, I aim to identify whether and how the rigor, complexity, and credibility signals embedded in formal academic work translate (or fail to translate) into their digital communications. This will shed light on differences in how causal reasoning is presented in scholarly work versus informal, rapid communication channels like

Twitter, and how these differences might affect trust, credibility, and policy influence.

2. **Politicized Scientists: Credibility Costs of Political Expression (Joint with E. Alabrese, F. Capozza).** Working Paper

    - *Project Description:* Using large-scale data on academics' social media activity, we investigate how overtly political expression influences public trust in scientific expertise. Through survey experiments, we find that polarized political expression reduces perceived credibility and audience willingness to engage.

    - *Future Direction:* Understanding how causal or non-causal claims are perceived differently online will be key. This ties into the comparison of causal discourse in formal economics research with more narrative-driven, potentially partisan statements on social media. The goal is to ascertain whether "credible causal claims" carry a credibility premium in the digital public sphere, or if political framing and sentiment overshadow the methodologically grounded claims typical of academic research.

3. **Causal Claims in Economics (Joint with T. Fetzer).** Project Website; CEPR Working Paper

    - *Overview:* This project develops a large-scale, LLM-based measurement framework to analyze over 44,000 economics working papers (1980–2023). We map economic concepts, identify when authors make causal claims, and examine how such claims relate to publication success, citation impact, and the structure of economic knowledge. We find that "credibility revolution" methods have changed the incentives in top-tier publishing, while the complexity and interconnectedness of causal narratives drive both recognition in top journals and citation outcomes.

    - *Relevant Future Direction:* I plan to extend this framework to measure and compare the structure and frequency of causal claims in social media communications by academics. The objective is to explore how digital platforms shape or differ from formal, peer-reviewed narratives of causality and credibility in economics research.

4. **AI-generated Production Networks (Joint with T. Fetzer, P. J. Lambert, B. Feld).** Project Website; CEPR Working Paper

    - *Overview:* Using generative AI, we build a comprehensive, granular product-level production network capturing over 5,000 products and their input-output relationships. Our approach uses ensemble prompt tuning and network pruning to identify key linkages in global value chains. We apply this structure to understand shifts in production networks, the effect of trade disruptions (e.g., 2017 Qatar blockade), and phenomena like on-shoring.

    - *Future Direction:* Extend the physical good production network to (digital) services.

Committee Members:

- **Professor** Thiemo Fetzer (University of Bonn & University of Warwick)
- **Professor** Ralf Martin (Imperial College Business School)