15 December 2024

Dear Sir or Madam,

I am writing to express my interest in attending the upcoming Digital Economics and AI Tutorial on February 12, 2025. Below, I have included my contact information, a brief overview of my academic background, and my current research focus to provide you with relevant context for my application.

Contact Information:

- Name : Pakasa Bary (Mr.)
- Email : p.bary@unsw.edu.au
- Address : 33/276 Bunnerong Rd, Hillsdale, NSW 2036, Australia

Graduate Studies:

I am currently pursuing a Ph.D. in Economics at University of New South Wales (UNSW), Australia. I began my enrolment in February 2023, and I have completed all required coursework.

Research Interests:

My primary research interests include technological change, labor economics, and macroeconomics. I am particularly focused on digitalization, artificial intelligence and remote work.

Current Research Projects (PhD Chapters):

- **Post-pandemic labor reallocation, size-dependent distortions, and digitalization.** This paper analyses labour reallocation after the pandemic, the role of size-dependent distortions, and the implications for digitalization. Labour reallocation is investigated using firm-level data from Indonesia, which suggests a productivity-enhancing labour reallocation since the pandemic. It then presents a model demonstrating that firm-specific size-dependent distortions play a key role in driving labour reallocation. This finding is further supported by evidence that firm-specific distortions are associated with the size or productivity of the firms. The paper also extends the model to explore its implications for digitalization and provides some empirical evidence to support the claim.
- **The impact of artificial intelligence on skill premium and human capital investment.** I investigate the implications of AI usage on skill premium and human capital investment. The effect of AI on labor market outcomes may be skill-

dependent and therefore have a differential impact on wages and job displacement across different skill types, thus influences incentives for high school students to invest further in human capital. I combine a novel measure of AI coverage at firms, by state and industry levels, with microdata on earnings, education, and several demographic characteristics. The estimation results suggest that AI increases both skill premium and college attendance. To further interpret these findings, I characterize the equilibrium and identify two key mechanisms through which AI operates: a displacement effect and a disutility channel. The analysis disentangles the relative contribution of these mechanisms to the observed increases in the skill premium and college enrolment. In addition, this paper also uncovers some evidence of gender-based heterogeneity of these effects.

Committee Members:

- Supervisors : Gonzalo Castex (UNSW), Arpita Chatterjee (Federal Reserve Board), Shengyu Li (UNSW).
- Panels : Stanley Cho, Scott French, Petr Sedláček (all UNSW).

I am particularly interested in this tutorial as it aligns with my ongoing research area. This opportunity will enrich my understanding about the current work on these topics and enable me to further enhance my research capabilities.

Thank you for your consideration. Please let me know if you require any additional information.

Sincerely,

Pakasa Bary