Economics of Artificial Intelligence - Virtual Conference Call for Applications

To apply, graduate students should send an application in a single pdf file (labeled with the applicant's name) with the following information:
• Contact information, including email address.
• A one page CV, including key coursework, major (and minor if applicable) focus of study.

CV

Deepti Sikri

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Education

- PhD in Economics, University at Albany, Fall 2018-
- Ms in Economics, University of Hawaii at Manoa, Fall 2016-2018
- Masters in Development Economics, South Asian University, India 2010-12
- BA Honours Economics, University of Delhi, India 2007-10

Research Interests

- Macroeconometrics, Financial Economics, Monetary Economics, Network Science

Work Experience

- Graduate Teaching Assistant, Department of Economics, University at Albany, Fall 2018-
- Instructor, Online course in "International Macroeconomics", University at Albany, Summers 2018.
- Graduate Teaching Assistant, Department of Economics, University of Hawaii, Fall 2016-
- Courses: Monetary Economics, International Trade, Macroeconomics, Principles of Macroeconomics
- Research Analyst, Institute of Economic Growth, University of Delhi, February 2013-November 2015.

Research Experience

- Assessment and Monitoring of NRHM (National Rural Health Mission) sponsored by Ministry of Health and Family Welfare.
- A panel data study to understand the health inequalities measured in health outcomes like Infant Mortality Ratio (IMR), Under-Five Mortality Ratio (UFMR) and immunization using the concept of Gini coefficient & concentration index and the convergence models.
- Linkages between economic growth and health: A measurement of long run causality in the time series framework using Engle & Granger Approach and Autoregressive Distributed Lag Model approach.
- Association of health and development indicators with IMR and MMR in India, A state level analysis.
- Measurement of gender bias by using logistic regression and an intersectionality approach for the connection between gender and economic class relations.

- Impact of poverty on under-nutrition, based on microeconomic principles using a logistic multilevel regression analysis.

Dissertation in Masters program

- Impact of the production of corn-based ethanol on food inflation- A Time Series Analysis", August 2011- June 2012.

Trainings and Internship

- Training on Monitoring and Evaluation under National Health Mission, National Institute of Health and Family Welfare, October 2014.
- Computer Skill Up-gradation Program, Institute for Economic Growth on Advanced MS Excel and MS Access, 2013.
- Internship in social audits of the Integrated Child & Development Schemes and National Rural Employment Guarantee Act, Jan Jagaran Shakti Sangathan (JJSS), Araria District, Bihar, India, July-August 2011.

Paper Presentations

- "Sources of financing Out-of-Pocket expenditure: A state level analysis", National Workshop on "National Health Mission: Achievements and Challenges", September 2014, Institute of Economic Growth, Delhi, India.
- "Association of Health and Development Indicators with IMR and MMR in India: A State level analysis", National Conference on National Rural Health Mission- A Review of Past Performance and Future Directions, August 2013, Institute of Economic Growth, Delhi, India.

Scholarships

- Graduate Teaching Assistantship, Department of Economics, University at Albany, 2018-
  Graduate Teaching Assistantship, Department of Economics, University of Hawaii, 2016-18.
- Merit-cum-need scholarship, South Asian University, 2010-12..
- Merit Scholarship consistently for 3 years, University of Delhi, 2007-10.

Academic Achievements

- Highest aggregate marks in annual examination in undergraduate for the three consecutive years and secured first position in college (2007-2010).
- Received Certificate of Merit Award thrice and a trophy in undergraduate college for securing the first position in the Annual Examinations.
- Scored highest marks in Principles of Economics, Micro Economics and India's Development since 1947.
- Scored second highest in statistics and econometrics in undergraduate college.
- Optima Economic Society awarded Certificates of Merit and trophy for being the topper in
- the college.
- Scored highest in International Finance at Master's Level.

Professional Memberships

- Student Affiliate, East West Centre, Hawaii, USA, Fall 2017-18.
- In workshop organizing committee, Population Research Centre, Institute of Economic Growth, 2013-14.
- Vice President, Optima Economic Society, Satyawati college, University of Delhi, 2008-2009.
- "Each One Teach One" National Literacy Mission conducted at the school level in 2004.

Languages and Programming

- Eviews, STATA, Matlab, R, Gephi
- MS Office, Operating System Windows 95, 98, 2000, ME, 2003 and 2007

Languages: English, Hindi

Coursework completed at graduate level so far

- Microeconomics I & II, Macroeconomics I & II, Mathematical methods for Economics, Econometrics I, II and III, Econometrics in Time series, Applied Econometrics, International Monetary Economics, Adv Topics Applied Economics, Adv Topics Thry & Econometrics (industrial Organization), Workshop in Econometrics, Adv Topics Applied Economics (Labor Economics), Network Science (Computer Science Department)

A maximum 300 word summary of the applicant's interest in AI. This could include research already undertaken, links from current research focus on AI topics, or reasons for newly formed interest in the topic.

I attended a reading group in Artificial Intelligence and Economics in my department. I learned that Artificial Intelligence (including machine learning, big data, etc.) is not only restricted in the field of computer science. It is reshaping how companies conduct their business, impacting how individuals live their lives, and creating new policy challenges for governments. Artificial intelligence creates unique opportunities for economics. On one hand, it enables the collection of data on an unprecedented scale and speed, and supplies a vast array of methods to answer economic questions both new and old. On the other hand, the adoption of artificial intelligence by economic agents (firms, consumers, governments) begs numerous important questions for economics: What would happen to income inequalities as machines enter the labor force? How should the government harness the efficiency-enhancing aspects of artificial intelligence and regulate those inducing market failure?

While exploring on my research interests in macroeconomics and finance, I found that that are machine learning techniques that researchers and econometricians have tried to use developing DSGE models as opposed to conventional models and are trying to bring in these innovative techniques to efficiently update the model, rather than revising on whole model every time, that may be more time consuming.

I was doing some research work in my Industrial Organization class about understanding the impact of productivity shocks and its spillovers in US industries using a Spatial Autoregression analysis. I worked on using the data from Compustat and BEA input-output tables. I also tried to use some network techniques from Network Science literature and develop a production network using firm level data, aggregated to industry level and built some igraphs for visualization on the US industrial network and tried understanding the properties of the network- in degree, out degree, interconnectedness etc.
I want to use this idea and try to built a general framework more in macroeconomics and understand such spillovers at the firm level due to some exogenous- say unanticipated monetary shocks. In recent Covid-19 crisis, it opened up more room for research in understanding such shocks and its contagion impact.

Thus to understand where some research like this or more general in economics is going with artificial intelligence and to inspire new and impactful research ideas, this workshop with NBER would help me to broaden my skill set with which I will be more equipped in trying to learn how such techniques can be used in research areas of macroeconomics and finance.