BISHMAY BARIK

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Education

Shiv Nadar University, Delhi-NCR - M.Sc. Economics   2023-2025
  Dean's List, 2025
  - Semester 1: GPA: 8/10 | Semester 2: GPA: 9.4/10 | Semester 3: 9.24/10
  - **Subjects:**
    Macroeconomics (I & II) *(Distinction)*, Econometrics (I & II), Microeconomics (I & II)
    Economics of Discrimination, Development Economics, Behavioural Economics
  - **Postgraduate Dissertation:** *Caste in Stone? Cultural Distance and the Education Game*

XIM University, Bhubaneswar - B.Sc. Economics (Hons.)
  with Three consecutive years of Merit Scholarship | Second Ranker   2020-2023
  - CGPA: 9.47/10
  - **Subjects:**
    Macroeconomics, Microeconomics, Development Economics, International Economics,
    Game Theory and Behavioural Economics
  - **Undergraduate Dissertation:** *Economics of Discrimination: Review of Gary Becker's work and its application on India*

Research Experience

1. Research Intern - Development Data Lab   Mar 2025 - Present
PI: Dr. Paul Novosad
  - Cleaning and writing the codes to incorporate the Annual Status of Education Report (ASER, 2007-2022) for India into the Socioeconomic High-resolution Rural-Urban Geographic Platform for India (SHRUG) Dataset by Development Data Lab.

2. Research Assistant - QuantEcon   May 2025 - Present
PI: Dr. Matthew McKay
  - Design and develop an open, accessible undergraduate economics course using PyDy and WebAssembly for real-time simulation and code execution, teaching scientific computing to tackle issues like inequality, resource scarcity, and climate change.

3. Research Assistant - A Research Project on Culture and Debt in India   Aug 2024 - Present
PIs: Dr. Satyajit Chatterjee, Dr. Ashwini Deshpande & Dr. Nirupama Kulkarni
  - Analyzing emigration patterns and debt holdings across different castes, religions, and social strata using the CMIE-CPHS dataset, with a focus on state-wise and district-wise variations in India.
  - Investigating loan-taking behavior among various castes and religions, exploring the influence of cultural norms and traditions on these financial decisions.

4. Research Assistant - Ashoka University   Apr 2025 - May 2025
PI: Dr. Bhaskar Dutta
  - Replicating the methodologies of a Journal of Development Economics paper using the Annual Status of Education Reports Data (ASER) at the state level.

5. Research Assistant
"Punishment and Crime: Impact of Death Penalty on Local Crime Rates in India"   Dec 2024 - Jan 2025
PIs: Dr. Ashwini Deshpande & Dr. Anisha Sharma

6. Research Intern - Center for Advanced Financial Research and Learning (CAFRAL), RBI   2024
PIs: Dr. Gautham Udupa & Dr. Vidhya Soundararajan
  - Converting several Stata codes and writing MATLAB equivalents for a project.
  - Reviewing RBI circulars and identifying important notifications related to Priority Sector Lending in India.
  - Reviewing literature on developmental factors that affect stock market participation and presenting them during the internship at CAFRAL.

Dissertation and Research Projects

Caste in Stone? Cultural Distance and the Education Game   2024 - 25
Master's Thesis | **Supervisors:** Dr. Partha Chatterjee (Internal) & Dr. Pubali Chakraborty (External)
- Developed a three-period macroeconomic model to analyze intergenerational human capital and income disparities across caste and religious groups in India, using CPHS and Samaj Survey data.
- Quantified the role of cultural distance in perpetuating intergroup disparities, linking variation in cultural norms to differences in human capital accumulation and income outcomes across social groups.

Shedding Light on Consumption: Assessing Night-Time Luminosity as a Predictor of Consumption Expenditure in India   2025
Software(s) Using: Python | **Libraries**: Streamlit, Plotly, Tensorflow, Pillow
- Exploring how night-time light intensity correlates with consumption expenditure across Indian regions using SECC and DMSP Nightlights data.
- Using a neural network with TensorFlow & Keras for predictive analysis, with SHAP analysis for model interpretability (collected from SHRUG).

Tracing Disparities: Educational Spending Before and After Covid-19 Among Social Groups in India   2024
Supervisor: Dr. Gitanjali Sen | **Co-author:** Manya Pahwa
Software(s) Using: Python & STATA
- Created a Difference-in-Differences model to estimate pre- and post- Covid 19 educational expenditure trends across different religion and caste groups in India using CMIE-CPHS dataset.
- Explored possible reasons to understand why every social group was affected differently during a pandemic.

Review on 'Does Immigration Affect the Long-Term Educational Outcomes of Natives? Quasi-Experimental Evidence' by Eric Gould, Victor Lavy, and Daniele Paserman   2024
Supervisor: Dr. Gitanjali Sen
- Criticizing the original paper, and identifying potential research gaps, and extending the paper.
- Introducing heterogeneity among the students on the basis of ranks achieved in the class, and analyzing the causal effect of increased concentration of migrants on the heterogeneous Israeli students.

Does Overconfidence Lead to Procrastination?: A Cognitive Reflection Test Experiment   2024
Supervisor: Dr. Punarjit Roychowdhury
- Tried to build a bridge between overconfidence and procrastination.
- Use of Cognitive Reflection Test to identify overconfident people and studied procrastination behaviour among them.

An Environmental Kuznet's Curve (EKC) Analysis: A Case Study on Ganga and Yamuna   2024
Software(s) Used: STATA, R & Excel
Supervisor: Dr. Ram Ranjan | **Co-author:** Manya Pahwa, Shiv Nadar University, India
- Created Econometric Model to test for EKC in river Ganga and Yamuna.
- Analysed pollution patterns and tried to identify the cause of pollution in these rivers.

Economics of Discrimination: Review of Gary Becker's work and its application on India   2022 - 2023
Dissertation, B.Sc. Economics, XIM University | **Supervisors:** Dr. Bharatee Bhusana Dash & Dr. Pintu Parui

Teaching

Shiv Nadar University, India   2023-2024
Graduate Teaching Assistant | Semester - IV (Postgraduate Course)
- ECO512: Macroeconomics II (Dr. Kurt Horner & Dr. Trishita Ray Barman)
Graduate Teaching Assistant | Semester - III
- ECO302: Intermediate Macroeconomics (Dr. Aditi Singh & Dr. Trishita Ray Barman)
Graduate Teaching Assistant | Semester - II
- ECO461: International Economics (Dr. Trishita Ray Barman)
Graduate Teaching Assistant | Semester - I
- MAT101: Calculus - I (Dr. Niteesh Sahni)

Software

STATA | Python | LaTeX | Markdown | Jupyter Notebook | MATLAB | R | Dynare

References

Available on request.