Suraj Kumar

Email | LinkedIn | Personal Website | Github

Research Interests

Macroeconomics, International Finance, Time-series Econometrics, Machine Learning

Education

Boston College, Ph.D. in Economics, GPA: 3.9/4 *Expected May 2029*
Advisor: Prof. Pablo Guerrón-Quintana
Delhi School of Economics, M.A. Economics, Marks: 68.07% *May 2018*
Indian Institute of Technology Delhi, B.Tech in Civil Engineering, CGPA: 7.23/10 *May 2014*

Research

Working Papers

Macroeconomics with Foundation Models: Forecasting, Identification, and Structural Scenario Analysis
with Pablo Guerrón-Quintana and Zhihang Liang Paper

- Benchmark the Chronos-2 time-series foundation model against BVARs on FRED-MD and the 1,400+ series FRED-SD state panel. Chronos-2 outperforms BVAR on average, especially after COVID.
- Use Chronos-2 forecast errors as a nonparametric reduced form for local-projection monetary policy IRFs, and extend structural scenario analysis to a nonlinear, non-Gaussian setting.

Commodity Supply News Shocks: Evidence from Scheduled Announcements Paper

- Identify U.S. agricultural supply news shocks from USDA's confidential, weather-driven crop yield forecast revisions, orthogonalized to their own lags and lagged real crop prices.
- Compared with agricultural commodities futures-based shocks, the revision shocks have a more muted effect on real activity and a delayed but significant effect on food and core prices.

Work in Progress

Lost in Transmission: Does BOJ Policy Reach US Financial Conditions? Paper

- Construct level and risk financial-conditions factors for Japan and the US and instrument Japanese conditions with BOJ monetary policy shocks.
- *Preliminary Findings:* No significant transmission over the full sample; after the December 2022 yield-curve-control band widening, weak evidence of Japanese conditions moving US conditions, consistent with portfolio rebalancing and a carry-trade unwind.

Industry Experience

Economics Research Analyst – Global Investment Research *June 2020 - August 2022*
Goldman Sachs, Mumbai, India

- Contributed to writing thematic reports, conducted econometric analysis on short-term and medium-term drivers of inflation, the RBI's reaction function, determinants of India's trade deficit, and fiscal balance.
- Published regular commentary and forecasts on India's macroeconomic data releases, including inflation, growth, industrial production, RBI policy rate, trade, and fiscal balance. Published weekly and monthly tracker of economic indicators and COVID-19.
- Constructed proprietary *GS India Consumption and Investment indices* using PCA, and devised *GS India stringency index* from lockdown policies of 10 key states.

Analyst – Machine Learning Model Developer *January 2019 - March 2020*
American Express India Limited, Gurugram, India

- Made big data ML models using AXGBoost to predict credit card spend of prospective US customers.
- Implemented telemarketing Net Response Rate (NRR) model in production by using SQL and Linux shell scripts.

Model Validation Analyst – Model Risk Management *July 2018 - December 2018*
Credit Suisse, Mumbai, India

- Conducted checks related to OLS assumptions, variables stationarity, outliers, model performance (in-sample/ out-of-sample), and sensitivity analysis for time-series regression models. R Notebook
- Coded in *R* to price *convertible callable bond*, and to evaluate multiple regression models at once. R Code

Academic Research Experience

Research Associate *September 2022 - January 2024*
Centre for Advanced Financial Research and Learning, Reserve Bank of India, Mumbai, India

Food and Fuel Price Pass-through to Core inflation *December 2022 - January 2024*

- *Findings:* Indian states which trade more compared to other states have lower pass-through of food and fuel shocks to core inflation.

The Political Economy of Fiscal Dominance *September 2022 - September 2023*

- *Findings:* Monetary policy reacts more to inflation shocks in a high-political constrained regime compared to a low-political constrained regime in 15 Emerging Market Countries.

Presentations

Upcoming: RBA Continuing Education in Macroeconometrics Workshop, Sydney *November 2026*

Teaching Experience

Teaching Assistant – Econometric Methods Stata Lab (EC2228) *Fall 2026*
Boston College, Chestnut Hill, MA Course Website

- Teach weekly undergraduate lab sections on applied econometrics in Stata and the interpretation of regression results; prepare lab materials and problem sets.

Honors and Awards

- Manmohan Singh Fellowship (1 DSE entering graduate for topping entrance examination annually) *2016-17*

Technical Skills

Computer Programming: Stata, R, MATLAB, Python and SQL
Data Analysis Tools: Excel and EViews