

# JOE SAIA

PhD Economist

New York, NY • 518-530-8318 • [joe5saia@gmail.com](mailto:joe5saia@gmail.com)  
[github.com/joe5saia](https://github.com/joe5saia) • [linkedin.com/in/joe-saia](https://linkedin.com/in/joe-saia)

## Summary

Economist with strong applied statistical modeling skills looking for data scientist roles. Seeking an opportunity to improve business decision processes by applying coding skills, data experience and a track record of intelligently incorporating machine learning to refine qualitative analysis.

## Education

**PhD Economics** • Columbia University • Aug 2016 – May 2021 (Expected)

**MSc Economics** • University College London • Sept 2013 – Sept 2014

**BS Physics & Economics** • Rensselaer Polytechnic Institute • Aug 2009 – May 2013

## Work Experience

**NYU Furman Center** • Independent Researcher • February 2021 – Present

- Forecasted monthly metro level homeless rates from dozens of economic and health indicators

**Columbia University Economics Department** • Teaching Assistant • Aug 2017 – May 2020

- Managed four teaching assistants during transition to remote learning in Spring 2020 term
- Organized online course logistics to promote successful learning, with a 97% course pass rate

**Federal Reserve Board of Governors** • Senior Research Assistant • Oct 2014 – July 2016

- Incorporated new data sources by designing automated pipelines and writing internal documentation
- Constructed a one terabyte, trade level dataset to produce a stock illiquidity warning dashboard
- Upgraded 20-year-old internal plotting library to R from S-PLUS, reducing software errors
- Designed FOMC briefing graphics summarizing policy research for non-economist audience
- Wrote twice-daily domestic and international market summaries during 2015 Shanghai market panic
- Trained and mentored junior research assistants in Unix and code management

## Research

### **Rational Inflation Forecasting**

- Coded a hidden Markov model estimated via Bayesian Markov chain Monte Carlo in Julia to produce historical monthly probabilistic forecasts of U.S. inflation from 1980-2019
- Used model to show that low probability, high inflation events explain survey forecast bias

### **The Role of Monetary Policy in Shaping Business Investment Decisions**

- Casually measured the heterogenous firm investment response to monetary policy arising from financial constraints using the Compustat panel dataset with novel monetary policy shocks
- Implemented the Double/Debias Machine Learning algorithm as a Python class on top of the Scikit-Learn library to control for nonlinear effects of confounders with random forests

### **Measuring the Private Information of Central Banks**

- Estimated structural factors with asymptotic PCA using NumPy to decompose asset price returns into the direct and indirect monetary shocks of Federal Reserve announcements
- Scraped release dates and times from the BLS website with BeautifulSoup, Requests and Pandas
- Assembled data pipeline for futures trade data. Used Python to access data API and PostgreSQL to warehouse and optimize database with 3 billion observations

**Programming Languages:** Python, SQL, R, Julia, Git, Machine Learning, Docker, Unix