

JOE SAIA

Data Scientist

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Summary

A 5th year Economics PhD candidate at Columbia University with a focus on empirical macroeconomics, econometrics and machine learning. Looking to apply my research experience and coding abilities in a fast-paced, data-rich environment

Experience

PhD Economics • Columbia University • 2016 – Present

- Estimated a hidden Markov model with Bayesian MCMC in Julia to learn the real-time historical forecast distribution of monthly U.S. inflation and compared the model output to predictions from behavioral models
- Estimated identified structural factors with asymptotic PCA in Python to measure the direct and indirect effect of economic guidance in Federal Reserve announcements
- Assembled data pipeline for financial tick data with 3 billion observations in Postgres
- Teaching assistant for undergraduate and master's Macroeconomics, each with approximately 75 students per class. Taught modern theoretical methods at the appropriate level of complexity
- Head TA - managed course operations including assigning grading duties and recitation schedules for 5 TAs. Responsible for addressing student concerns and managing transition to alternative learning environment during Covid-19

Senior Research Assistant • Federal Reserve Board of Governors • Capital Markets • 2014 – 2016

- Fedplots.R – Solo rewrite and modernization of the FRB's main plotting library from SPlus to R, currently used by most RAs
- Automated dashboard updates and data processing using Perl, Bash, R and SAS
- Wrote twice-daily summaries on international and domestic equity markets during 2015 Shanghai market panic for wide distribution
- Designed and produced graphics for two policy briefings for the Federal Open Market Committee

Education

MSc Economics • University College London • 2013 – 2014

- Measured the effects of extended unemployment benefits on individual job finding rates using monthly BLS employee-level panel microdata for master's Dissertation

BS Physics & Economics • Rensselaer Polytechnic Institute • 2009 - 2013

Technical Skills

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|----------|-------|---------|-----------------------|
| • Python | • R | • Julia | • SQL |
| • Stata | • SAS | • Linux | • Structural Modeling |
| • Docker | • Git | • Bash | • Perl |