

## Software Engineer

Location flexible, New York City or NC Research Triangle preferred //  
Full Time

### Overview

The Jain Family Institute (“JFI”) is seeking a software engineer or designer to lead early-stage development of a suite of software policy simulation and modeling tools based upon new and existing techniques in economics, sociology, and other fields. These tools will facilitate rich exploration of policy design spaces by providing a graphical user interface for specifying policies, managing source data, applying pluggable models of the underlying spaces (such as DSGE and HANK models for monetary and fiscal policy), and producing visualizations.

As this is an early-stage project, the position will require flexibility, judgment, and a wide range of skills and responsibilities, including design work, programming, and project management. As the product develops, the position will also involve team-building decisions and coordination. This is an exciting opportunity for engineers and developers looking to apply their skills to pressing social problems, in an exciting intellectual climate, with an unusual level of discretion over the future of our work.

This engineer will work closely with JFI’s Chief Research Officer throughout the project. They will join a team of 15 full-time staff and report directly to the CRO.

### How to Apply

Those interested in the position should send the following application materials to [analytics-apps-2021@jainfamilyinstitute.org](mailto:analytics-apps-2021@jainfamilyinstitute.org):

1. Statement of interest
2. Resume with contact information
3. Project portfolio

Please submit these materials at your earliest convenience. We will provide a skills test to our preferred candidates. We will review applications on a rolling basis, with a deadline of August 16.

## Responsibilities

The software engineer will work closely with the CRO, and other JFI full-time staff and fellows, as needed, including:

- Working with senior staff to formulate design objectives and product requirements
- Working with leading researchers to implement and incorporate cutting-edge models in macroeconomics, labor economics, higher education finance, infrastructure logistics, and sovereign wealth management
- Integrating and reworking existing tools and data sources, and designing modular application interfaces to allow incorporation of new tools over time
- Handling core project management responsibilities as the project and team grow
- Identifying resource and personnel needs, along with cost-effective ways of filling them
- Documenting both technical aspects of the project and nontechnical descriptions of the tools
- Meeting daily with the CRO to coordinate and clear hurdles

## Required Skills and Qualifications

### Required

- Expertise in software engineering and design, particularly in building flexible and expandable software frameworks
- Project management and team leadership ability; knowledge of agile frameworks; ability to coordinate diverse development teams with a wide range of skills
- Working knowledge of secure data management practices
- Familiarity with contemporary data engines, including Apache Spark
- Basic familiarity with numerical and scientific computing techniques, including Monte Carlo simulation, stochastic approximation and root finding, fast sampling algorithms, and dynamic programming
- Basic familiarity with contemporary reinforcement learning subject matter, including policy optimization and Q-learning
- Basic familiarity with Bayesian statistics and data analysis
- Ability to architect systems integrating, programming languages dominant across multiple disciplines, including R, Python, Julia, Scala, and Rust

### Helpful Skills and Qualifications

- Knowledge in finance, macroeconomics, econometrics, experimental and quasi-experimental design and causal inference

## Benefits

- Compensation commensurate with experience and qualifications
- Full benefits, including healthcare, dental, and vision, NYC Metro area transit costs covered 100% by employer, 401(k) with company matching, and unlimited PTO
- Opportunities to join conversations and events with scholars, policy experts, and representatives from a variety of other related organizations

## Commitment

- Full-time (approximately 40 hours per week)
- Our typical hours are 10am-6pm ET.
- We are open to applicants from all regions of the United States, with a preference for those in the vicinity of New York City or the North Carolina Research Triangle. You must be willing to travel to our Manhattan office on occasion for team meetings.

## About JFI

The Jain Family Institute is an applied research organization in the social sciences. We work to bring just and equitable research and policy from conception in theory to implementation in society. Our current initiatives include applied research in higher education finance, guaranteed income, and digital ethics.

JFI is firmly committed to the principle of Equal Employment Opportunity (EEO). We believe that the quality of our work and research is immensely strengthened by the diversity of our network and our differences in background, culture, experience, national origin, religion, sexual orientation, gender identity, race, ethnicity, disability and more. We actively seek and welcome applicants who identify as BIPOC, women, members of the LGBTQIA community, persons with disabilities, and people at the intersections of and peripheries of these identities, from across the spectrum of disciplines and methods. For details about our staff and current projects, see <http://www.jainfamilyinstitute.org>.