

Job Title: Research Director
Reporting To: Managing Director
Projected Start Date:

Who We Are

The Crime Lab and its sister organization, the Education Lab, is a non-partisan faculty-led research center at the University of Chicago directed by professors Jens Ludwig and Jonathan Guryan. Our mission is to help design, test, and scale solutions to some of our nation's most pressing and persistent social problems. We use the power of research and data science to help public sector agencies improve social conditions for the people they serve. Our focus on partnering with the public sector is motivated by the recognition that only the government has the scale of operations to translate promising solutions into large-scale social change.

Our work seeks to have impact in the world through two key pathways. The first pathway to impact is directly through the design and testing of promising policy levers in conjunction with our government and NGO partners. Past projects have, for example, helped the city of Chicago re-orient much of its violence strategy towards greater use of social programs, informed the Chicago Public Schools decision to allocate millions of dollars to intensive high-dosage tutoring for children growing up in some of the city's most economically disadvantaged communities, supported the implementation of reforms at the Chicago Police Department initiated by the Obama Administration's Department of Justice civil rights division, and worked with the New York City's mayor's office on the effort to close the long-troubled Rikers Island jail without compromising public safety in the city. The second pathway to impact is by drawing generalizable lessons from these local R&D initiatives that are intended to inform scientific and policy efforts across the country, or even across the world. The results of Crime Lab and Education Lab projects have been published in leading peer-reviewed scientific outlets like *Science*, the *Quarterly Journal of Economics*, and the *Journal of Policy Analysis and Management*, and featured in leading national news outlets like the *New York Times*, *Washington Post*, *Wall Street Journal*, *National Public Radio*, and *PBS News Hour*.

We have a full-time staff of nearly 100 in offices located in downtown Chicago (across from city hall) and New York City (in Downtown Manhattan), which includes Ph.D.-level research directors, data scientists, and program managers. We are funded by research grants from foundations such as the Arnold, Joyce, MacArthur, McCormick, and Pritzker foundations, federal government agencies such as the National Institutes of Health, U.S. Department of Education and US Department of Justice, and private individuals.

We are also able to capitalize on the unique intellectual environment of the University of Chicago itself, which has been one of the world's leading research universities since its founding in 1890. Since our own founding in 2008, we have successfully collaborated with University of Chicago faculty from across campus including the Harris School of Public Policy, Booth School of Business, Crown School of Social Work, the Law School, as well as the economics, psychology, sociology and computer science departments. We also routinely work with established faculty members at other leading universities.

About our Machine Learning Portfolio

The success of machine learning in the commercial sector raises the promising idea that the combination of machine learning and large administrative datasets can lead to similar benefits in the public sector. At the same time, machine learning is fundamentally different than the causal inference questions that have been the mainstay of empirical policy research, resulting in hesitation and uncertainty about how and when to use these new techniques. This uncertainty is compounded by concerns that the naïve use of historical data will result in tools that will perpetuate biases and aggravate problems, rather than solve them. The goal of both the Crime Lab and the Education Lab is to identify problems where machine learning can provide a significant social benefit¹, and to solve the resulting conceptual challenges associated with the creation, evaluation, and deployment of predictive models. We believe that proper and judicious application of machine learning can yield the benefits of these techniques while mitigating harms, but that doing so will require careful thinking and new research at the intersection of computer science and the social sciences. We are particularly interested in novel approaches to prediction and evaluation in the presence of biased and censored data², and in approaches to optimally combining the prediction from a machine learning algorithm with the expertise and private information of a human decision-maker.

Crime Lab offers a unique opportunity to work on these conceptual challenges in the context of problems faced by policy makers every day. We work with our partners to develop a project all the way from the basic research question to implementation and ultimate evaluation. Through this work, we hope to contribute to the development of best practices on how to effectively and responsibly implement predictive tools in public policy.

The Role

The University of Chicago Crime and Education Lab is seeking a full-time Research Director to contribute scientific and intellectual leadership to the organization and our work. The primary role of the Research Director is to direct a portfolio of research projects in association with faculty members and research teams, focused on reducing crime and violence and improving education performance and attainment of other life outcomes for disadvantaged youth in addition to facilitating technical assistance work for government partners and strategic partners. In this role, the Research Director will provide scientific direction on all projects, ensure the rigor and quality of work, manage and mentor research and project staff, and help to set and contribute to organizational priorities. The Research Director will report to the Managing Director and work collaboratively with senior faculty members at the University of Chicago and elsewhere, other research directors, and with partner agencies. The Research Director will contribute to the scientific content of research proposals and will assist the M.D. and other faculty affiliates in supporting fundraising, dissemination, and policymaker outreach activities. The Research Director will also contribute to strategic conversations about which new projects and initiatives the Crime Lab and Education Lab should take on. Career advancement for research directors usually takes one of two paths – increasingly ambitious project portfolios and leadership roles within the Crime Lab and Education Lab, or a faculty position elsewhere – previous research directors have taken tenure track

¹ We call these problems “prediction policy problems” (Kleinberg et al, 2015, *American Economic Review*)

² A challenge sometimes known as the “selective labels problem” (Kleinberg, Lakkaraju, Leskovec, Ludwig and Mullainathan, 2018, *Quarterly Journal of Economics*)

positions at institutions like Cornell University, the University of Pennsylvania, and the University of Maryland.

Duties and Responsibilities

- Provide scientific direction on all projects, ensure the rigor and quality of all work
- Manage and mentor research and project staff
- Help set and contribute to organizational priorities as part of the management team
- Report to the Managing Director
- Work collaboratively with senior faculty members at the University of Chicago and elsewhere, other research directors, and with partner agencies
- Contribute to the scientific content of research proposals
- Assist the Executive Director, Managing Director, and other faculty affiliates in supporting fundraising, dissemination, and policymaker outreach activities
- Contribute to strategic conversation about which new projects and initiatives the Crime Lab and Education Lab should take on
- Manage staff and demonstrate leadership on organizational initiatives

Education

Applicants must have a Ph.D. in computer science, statistics, economics, public policy, or other related quantitative discipline, and ideally will have defended their doctoral dissertation by Fall 2022.

Experience

The successful candidate will have expertise in machine learning or data science research, and an interest in finding and testing innovative solutions to urban problems. Previous experience in program evaluation and econometrics is a plus. Preference will be given to those who understand and use methods of causal inference, who have experience evaluating the performance of predictive models in real-world settings, and who have proven experience working with interdisciplinary research teams and agency and community stakeholders.

Competencies

- Advanced knowledge of machine learning and statistics
- Experience developing reproducible and maintainable code
- Knowledge of causal inference methods preferred
- Ability to communicate insights from data to technical and non-technical audiences
- Strategic leadership skills
- Supervisory skills
- Experience with machine learning applications in urban or social science preferred
- Knowledge of regulatory policies and procedures preferred
- Analytical skills
- Problem-solving skills
- Attention to detail
- Organizational skills

- Verbal and written communication skills
- Ability to work independently and as part of a team

To Apply

We seek a diverse pool of applicants who wish to join an academic community that places the highest value on rigorous inquiry and encourages a diversity of perspectives, experiences, groups of individuals, and ideas to inform and stimulate intellectual challenge, engagement, and exchange.

All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, protected veteran status or status as an individual with disability.

The University of Chicago is an Affirmative Action / Equal Opportunity / Disabled / Veterans Employer.

Please submit a resume, cover letter, writing sample, and reference contact information to UChicago's Workday system. Within the Workday system, this listing can be found by the position title or by the requisition number, **JR13726**.

If you have an active UChicago Workday account, you will need to complete the Internal Candidate application process. Simply log in to Workday and select the career worklet to begin.

External candidates should apply at <https://uchicago.wd5.myworkdayjobs.com/External>.

If you have questions about the Workday system, please contact our Shared Services department at <https://services.uchicago.edu>

Job seekers in need of a reasonable accommodation to complete the application process may contact the Shared Services Office by calling 773-702-5800 or by emailing sharedservices@uchicago.edu with their request.