CRELS ANNUAL REPORT 2023-24

COMPUTATIONAL RESEARCH FOR EQUITY IN THE LEGAL SYSTEM

PREPARED BY:
HARPREET MANGAT

A WORD FROM THE FACULTY DIRECTOR

CRELS' goal is to train PhD students in the social sciences, professional schools, statistics, and computer science in multidisciplinary research on the criminal legal system that leverages new data science methods and take into account the ethical and social implications of big data and artificial intelligence. CRELS stands on the three-legged stool: criminal legal systems, data science, and the social and ethical implications of AI

A larger goal is to build a multidisciplinary community at Berkeley and beyond that leverages the intellectual frameworks and tools of various disciplines to advance what we're calling computational social science and to contribute to diversification of academia more generally and data science in particular by creating an intellectual community where all students can thrive and learn from one another

David Harding

DAVID HARDING
PROFESSOR AND PI

CRELS is a new research training program that works on interdisciplinary and collaborative approaches to understanding and analyzing issues at the intersection of data and social sciences, criminal legal systems, and ethical use of AI.

I hope that you will read the report and help us spread the word about this amazing program (I'm being totally objective, of course!). We hope that more graduate students who are thinking of Berkeley or are already here will get in touch and think of becoming a part of our community.

Harpreet Mangat

HARPREET MANGAT
EXECUTIVE DIRECTOR

ABOUT THE PROGRAM

The UC Berkeley Computational Research for Equity in the Legal System Training Program (CRELS) trains doctoral students representing a variety of degree programs and expertise areas in the social sciences, computer science and statistics.

Launched in 2023 with a $3-million grant from the National Science Foundation (NSF), this five-year multidisciplinary training program in data science and social science disciplines fosters a new computational social science research community and leads the integration of research on the social implications of AI. CRELS is supported by a 5-year grant from NSF's NRT Research Traineeship Program. The grant supports Ph.D. students focusing on fundamental, longstanding challenges related to inequality and its connection to criminal legal institutions in the United States. Fellows will be trained for careers at the intersection of the studies of inequality, criminal justice, data science, and the social implications of artificial intelligence (AI) and big data. They will generate new scientific knowledge and develop novel tools for large-scale data integration and analysis.

CRELS benefits from Berkeley's rich, multi-disciplinary intellectual environments at the Berkeley Institute for Data Science (BIDS), Berkeley D(ata)-Lab, and the Kavli Center for Ethics, Science, and the Public, as well as a longstanding track record of mentorship and training for first-generation and underrepresented PhD students at the Institute for the Study of Societal Issues (ISSI).

ABOUT THE PROGRAM

KEY COMPONENTS

- A flexible set of pathways for trainees to acquire essential competencies;
- Two available "tracks" through the program for trainees with either more or less background in mathematics and computation;
- Courses in data science, computing, applied statistics, Inequality and Criminal Legal Systems, Social Implications of AI and Big Data, and on Reproducibility and Collaborative Computational Research;
- Participation in a multi-disciplinary CRELS workshop that meets weekly and includes discussion of work in progress, recently published research, and professional development.
- Professional development in team science, research ethics, science communication, and publishing.
- Mentoring from faculty from multiple disciplines.

RESEARCH PROJECTS

- **California Law Enforcement Accountability Network (CLEAN)**: aims to identify points of intervention in policing institutions, cultures, and practices to reduce police misconduct and excessive use of force.
- **Possibility Lab: Data-Informed Prosecutorial Decision-Making**: aims to assess how machine learning and other data science tools can effectively support efforts to reduce mass incarceration, increase racial equity, and improve efficiency in prosecutorial case processing.
- **EPIC Lab: Eviction and Criminal Justice System Involvement**: aims to collect and process more complete eviction data using tools such as NLP to mine electronically scanned court records in underrepresented jurisdictions.

NRT-HDR: Computational Research for Equity in the Legal System (CRELS) — Berkeley, University of California. NSF Award 2243822

HIGHLIGHTS

CRELS Speaker Series
Dec 7, 2023 | Social Science Matrix

Prof. Elizabeth Joh was the inaugural speaker at CRELS Speaker series and she spoke on "Police Technology Experiments". Prof. Joh is the Martin Luther King Jr. Professor of Law at UC Davis. She is a leading expert on policing, privacy, and technology. She served as a member of the U.C. Presidential Working Group on Artificial Intelligence (2020-21), and is an elected member of the American Law Institute, a Faculty Advisory Board member of the UC Berkeley CITRIS Policy Lab, and an appointed member of the National Academies of Sciences, Engineering, and Medicine study committee on Facial Recognition: Current Capabilities, Future Prospects, and Governance. She has spoken on policing and technology issues to audiences including the Justices of the Washington Supreme Court, the Judicial Research Training Institute of the Supreme Court of Korea, and the House of Lords Justice and Home Affairs Committee (U.K.).

Prof. Joh with CRELS faculty and fellows for a lunch conversation after her talk.

HIGHLIGHTS

NSF-NRT Meeting
Oct 29-31, 2023 | ASU

Prof. Stephen Small, co-PI of CRELS attended the NSF-NRT conference at Tempe, Arizona. Amanda Glazer and Alexander Asemota, trainee fellows, attended as well. Enjoy some photos from the conference.

DOCTORAL FELLOWS

NEENA ALBARUS
DOCTORAL FELLOW

Neena Albarus is a Ph.D. student in Social Welfare at the University of California, Berkeley. She has a Master of Social Work from The University of the West Indies, Mona, Jamaica. Additionally, she has contributed to academia by instructing courses in the field of social work. Her research portfolio spans quantitative, qualitative, and participatory methods, with a focus on critical social issues such as substance use, mental health, and social violence in Jamaica. She is interested in integrating computational tools for social justice advancement.

ALEX
DOCTORAL FELLOW

Alex is a PhD candidate in the Statistics department at UC Berkeley. His research focuses on explainability, fairness, and auditing in machine learning. Most recently, he has worked on leveraging longitudinal data to improve feasibility in counterfactual explanations. Alex also was a member of the inaugural cohort of the AI Policy Hub, where he worked on policy proposals regarding explanations from AI decision-makers. Prior to his PhD program, Alex received a Bachelor's degree in Mathematics from Howard University.

ÁNGEL MENDIOLA ROSS
DOCTORAL FELLOW

Ángel Mendiola Ross is a PhD candidate in sociology with a designated emphasis in Global Metropolitan Studies. He conducts research at the intersection of (sub)urban sociology, race and inequality, housing, and policing. Their current project examines land use policies and law enforcement practices in newer, fast-growing suburbs to better understand contemporary drivers of segregation in the post-civil rights era. Their past work empirically tested evidence of racial threat and renter threat in California suburbs with a focus on communities on the receiving end of gentrification and displacement from the coastal urban core. Before pursuing a PhD, they received a Master of City Planning from the College of Environmental Design at UC Berkeley and BAs in sociology and economics from the University of Southern California. They previously worked as a senior research associate at PolicyLink based in Oakland, California. In his spare time, Ángel enjoys sports, spending time outside, and playing drums.

DAVID MINH-DUY CAO
DOCTORAL FELLOW

David Minh-Duy Cao is a first-year PhD student in Computer Science. His research work aims to engage the intersection between computing and social justice, designing computing and programming tools to reify just futures and empower minoritized communities towards self-determination. Prior to beginning his PhD, he received majors in Computer Science (B.S.) and Ethnic Studies (B.A.) from UC San Diego. His current computing interests draw from his prior research work, which focused on using program synthesis and programming languages research to improve programming accessibility. He has also engaged in social justice practice through his prior work at SPACES, a student-run, student-led resource center at UCSD. In his free time, he enjoys dancing, practicing wushu, and practicing his photography and videography skills!

LUYI JIAN
DOCTORAL FELLOW

Luyi Jian is currently a PhD candidate at UC Berkeley's School of Social Welfare. Her research is situated within the juvenile and criminal legal systems, focusing on intervention strategies at the individual level and policy evaluation at the systemic level. Her dissertation explores a strength-based, innovative intervention that aims to translate the largely abstract Positive Youth Justice paradigm into real application. Specifically, she explores the extent to which justice-involved youth develop a prosocial identity or sense of self, and tests the conditions under which prosocial identity can flourish and protect young people from reoffending. Luyi holds degrees in Social Work (MSW) from Washington University in St. Louis, Criminal Psychology (MS) from People's Public Security University of China, and Economics (BE) from Tongji University. Before returning to academia, Luyi served as a police officer in Shanghai.

AMANDA GLAZER
DOCTORAL FELLOW

Amanda Glazer is currently a Statistics PhD candidate. Her research focuses on nonparametric methods, with an emphasis on expanding the theory and proper use of permutation tests in social good applications. She has a wide range of applied interests including education, sports and criminal justice. Prior to pursuing her PhD, Amanda earned her BA in mathematics and statistics, with a minor in computer science, from Harvard.

PIA DESHPANDE
DOCTORAL FELLOW

Pia Deshpande is a Political Science PhD student at the University of California, Berkeley. She is broadly interested in race, political behavior, and social inequity in American Politics. So far, she has worked on projects examining white American reactions to demographic change, narrative techniques to reduce prejudice against different outgroups, and asymmetric political mobilization as a result of elite weaponization of language. She is starting new work on evictions leading to political disenfranchisement. Before starting at Berkeley, Pia worked as an academic researcher at the Cooperative Election Study and a journalist (most recently with the data journalism team at the Associated Press). She received her undergraduate degree in Political Science from Columbia University.

ONI LANDEROS-CISNEROS
DOCTORAL FELLOW

Joni Landeros-Cisneros is a Ph.D. student in Education at the University of California, Berkeley. He holds a Master of Anthropology and a BS in Anthropology from Iowa State University. Additionally, he has contributed to academia by instructing courses with critical and decolonial frameworks in the fields of education and Spanish language learning. His research portfolio spans interdisciplinary quantitative and qualitative methods, with a focus on critical social issues such as whiteness in pedagogical content, carceral humanitarianism in K-12, and targeted racialized policing in higher education and beyond. He is interested in applying computational tools with an abolitionist sensibility toward social justice for historically criminalized communities through analyzing and disrupting racial biases present in policing institutions and their officers.

FACULTY AFFILIATES

CATHRYN CARSON
FACULTY AFFILIATE

Cathryn Carson is Chair and Professor of the Department of History at UC Berkeley. She is also the Co-I for Moore/Sloan Data Science Environments.

Cathryn Carson's research deals with the intellectual, political, and institutional history of contemporary science, including theoretical physics and data science.

Website, Twitter, GitHub, LinkedIn, ORCID

DAVID J. HARDING
CHAIR

David J. Harding is Professor of Sociology and Faculty Director of the D-Lab, which supports data-intensive research in the social sciences and humanities.

Dr. Harding studies poverty and inequality, urban neighborhoods, education, adolescents and young adults, incarceration, and prisoner reentry. He uses both qualitative and quantitative methods. His current projects include the social and economic reintegration of former prisoners, the transition to adulthood after prison, the effects of incarceration on crime, employment, and health, and causal inference for contextual effects research.

Website, Twitter, Research Gate, Google Scholar

ERIN M. KERRISON
FACULTY AFFILIATE

Erin M. Kerrison is Assistant Professor of Social Welfare at UC Berkeley.

Erin M. Kerrison's work extends from a legal epidemiological framework, wherein law and legal institutions operate as structural determinants of health. Specifically, through varied agency partnerships, her mixed-method research agenda investigates the impact that compounded structural disadvantage, concentrated poverty and state supervision has on service delivery, substance misuse, violence, and other health outcomes for individuals and communities marked by criminal legal system intervention.

Website, Twitter, Google Scholar, ORCID

ADITYA PARAMESWARAN
FACULTY AFFILIATE

Aditya Parameswara is Associate Professor at the I School and EECS at UC Berkeley and is Co-Director of the EPIC Data Lab at UC Berkeley.

Aditya Parameswaran's research interests focus on building tools for simplifying data science at scale, i.e., empowering individuals and teams to leverage and make sense of their large datasets more easily, efficiently, and effectively.

Website

PHILIP B. STARK
FACULTY AFFILIATE

Philip B. Stark is a Distinguished Professor of Statistics at UC Berkeley and Co-I for Moore/Sloan Data Science Environments.

Philip B. Stark's research centers on inference (inverse) problems and uncertainty quantification, especially confidence procedures tailored for specific goals. Applications include causal inference, the U.S. Census, climate modeling, cosmology, earthquake prediction and seismic hazard analysis, election auditing, endangered species, epidemiology, evaluating and improving teaching and educational technology, food web models, health effects of sodium, the geomagnetic field, geriatric hearing loss, information retrieval, Internet content filters, litigation, resilient and sustainable food systems, risk assessment (including natural disasters and food safety), the seismic structure of Sun and Earth, spectroscopy, spectrum estimation, and uncertainty quantification for computational models of complex systems.

Website, Twitter, GitHub, Research Gate, Google Scholar, ORCID

REBECCA WEXLER
FACULTY AFFILIATE

Rebecca Wexler is an Assistant Professor of Law at Berkeley School of Law, Faculty Co-Director of the Berkeley Center for Law & Technology and on the Faculty Steering Committee Member; Kavli Center for Ethics, Science, and the Public; UC Berkeley.

Rebecca Wexler teaches, researches, and writes on issues concerning data, technology, and criminal justice. Her work has focused on evidence law, criminal procedure, privacy, and intellectual property protections surrounding new data-driven criminal justice technologies.

Website, Twitter, Google Scholar

MARION FOURCADE
FACULTY AFFILIATE

Marion Fourcade is a Professor of Sociology and Director of Social Science Matrix at UC Berkeley.

A comparative sociologist by training and taste, she is interested in variations in economic and political knowledge and practice across nations. Fourcade is the author of Economists and Societies, which explores the distinctive character of the discipline and profession of economics in three countries. A second book, The Ordinal Society investigates new forms of social stratification and morality in the digital economy. Other research focuses on the valuation of nature in comparative perspective; algorithmic societies; the digitization of states and their moral regulation by financial markets; primitive accumulation in digital capitalism; the comparative study of political organization; the microsociology of courtroom exchanges; the sociology of economics; the politics of wine classifications in France and the United States.

Website, Twitter, LinkedIn, Google Scholar

STEPHEN SMALL
FACULTY AFFILIATE

Stephen Small is a Professor in the Department of African American Studies and Director of the Institute for the Study of Societal Issues, an Organized Research Unit on campus that is comprised of seven research centers the research, teach, train and work towards social change.

He teaches courses in the comparative historical sociology of Africans throughout the diaspora, with particular focus on the United States, the Caribbean and England. He also teaches qualitative methods. His current research priorities are on the political economy of Black Europe; and British imperialism and it's legacies, with special reference to Liverpool.

Website

AMY E. LERMAN
FACULTY AFFILIATE

Amy E. Lerman is a Professor of Public Policy at UC Berkeley and Director of the Possibility Lab at UC Berkeley.

Amy E. Lerman is a political scientist who studies issues of race, public opinion, and political behavior, especially as they relate to punishment and social inequality in America. She is the author of two books on the American criminal justice system—The Modern Prison Paradox and Arresting Citizenship (awarded a best book award from the Urban Politics Section of the American Political Science Association). Her most recent book, Good Enough for Government Work (awarded both the Woodrow Wilson Award and the Gladys Kammerer Award from the American Political Science Association) examines how perceptions of government shape citizens' attitudes toward privatization.

Website

TIM THOMAS
FACULTY AFFILIATE

Tim Thomas is a professional researcher and research director at Berkeley's Urban Displacement Project (UDP) and the director for the Eviction Research Network.

His research focuses on how neighborhood change, housing disparities, policies, and displacement affects household socioeconomic stratification and mobility by race and gender in the United States. His research at the UDP centers on developing open-source tools to measure displacement and gentrification as well as a national housing precarity risk model measured through the risk of eviction, displacement, and unemployment. Tim's research agenda is marked by an intellectual foundation in policy-relevant research operationalized through civic and academic collaborations that address real-world problems and advances scholarly research.

Website, Twitter, GitHub

AVI FELLER
FACULTY AFFILIATE

Avi Feller is an Associate Professor at Public Policy at the Goldman School of UC Berkeley.

He works at the intersection of public policy, data science, and statistics. His methodological research centers on learning more from social policy evaluations. His applied research focuses on working with governments on using data to design, implement, and evaluate policies. Prior to his doctoral studies, Feller served as Special Assistant to the Director at the White House Office of Management and Budget and worked at the Center on Budget and Policy Priorities. Feller received a Ph.D. in Statistics from Harvard University, an M.Sc. in Applied Statistics as a Rhodes Scholar at the University of Oxford, and a B.A. in Political Science and Applied Mathematics from Yale University.

Website

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