AI Day for Federal Statistics: CNSTAT Public Event
May 2, 2024

SPEAKER BIOSKETCHES

Katharine G. Abraham, Distinguished University Professor of Economics and Survey Methodology at the University of Maryland, is the Chair of the Committee on National Statistics. Her recent research includes papers on nonstandard work arrangements and the gig economy; work and retirement at older ages; student financial aid; trends in labor force participation; and the measurement of economic conditions and activity. She served as Commissioner of the Bureau of Labor Statistics from 1993 through 2001 and as a Member of the President's Council of Economic Advisers from 2011 through 2013. She also chaired the Commission on Evidence-Based Policymaking, whose recommendations formed the basis for the Foundations for Evidence-Based Policymaking Act of 2018. Abraham is a member of the National Academy of Sciences, a member of the American Academy of Arts and Sciences, and a distinguished fellow of the American Economic Association. Abraham received her Ph.D. in economics from Harvard University and her B.S. in economics from Iowa State University.

Katie Antypas is the National Science Foundation's (NSF) Director of the Office of Advanced Cyberinfrastructure which supports the development and deployment of advanced computing, data infrastructure, tools, services, and training for the research community. It is also the Office responsible for the launch and deployment of the National AI Research Resource (NAIRR) Pilot. Prior to joining NSF Katie spent 17 years at Lawrence Berkeley National Laboratory at the National Energy Research Scientific Computing Center in a variety of leadership roles leading the deployment of large-scale high-performance computing systems and supporting the scientific research community using them. She has an M.S. in CS from the University of Chicago and a Bachelor degree in Physics from Wellesley College.

Kent Cunningham is a visionary technology leader who spearheads the adoption and growth of cutting-edge solutions within highly regulated industries, including Federal Civilian healthcare, finance, energy, national security, and now extending to transportation and research verticals. As the Chief Technology Officer for Microsoft's Federal Civilian Government business, Kent

applies over 25 years of experience to drive impactful innovations and strategic initiatives across these sectors. Under his leadership, Microsoft leverages advanced technologies such as generative AI, quantum computing, and next-generation networking to navigate complex challenges and deliver substantial enterprise and government value. Kent's proactive engagement in the development of national standards, cyber security programs, and national technology adoption policies also underscores his pivotal role in shaping the future of technology implementation. Kent has a background in electrical engineering and business administration, and he resides in Nashville, TN where he is also a passionate water sports enthusiast, professional board member, and aspiring USCG charter captain.

Keenan Dworak-Fisher is the director of the National Longitudinal Surveys (NLS) program at the Bureau of Labor Statistics. In that role, he oversees the NLS program's efforts to maintain and improve data quality and its continuous evaluation of potential data linkages to enable greater use of NLS data. He has participated in several inter-agency efforts to define and promote data quality standards in the Federal Statistical System and within the Bureau of Labor Statistics in a way that encompasses the potential role of alternative data sources and new technologies.

Nadia Fawaz is an engineering leader in responsible technology, with expertise in AI, ML fairness and data privacy and their application to search and recommender systems. She has experience working with cross-functional teams to deliver technological solutions from concept to market in products used globally by hundreds of millions of people. She was a Senior Staff Applied Scientist at Pinterest where she founded and led the Inclusive AI team, building inclusive technology such as the Skin Tone Ranges and Hair Pattern Search. She was named one of the 100 Brilliant Women in AI Ethics 2021, her work on Inclusive AI was recognized in the AI and Data category on Fast Company's 2022 World Changing Ideas list and was featured in many news outlets. Earlier, she was a Staff Software Engineer in ML and the Tech Lead for the job recommendation AI team at LinkedIn, a Principal Research Scientist at Technicolor Research, and a postdoctoral researcher at the Massachusetts Institute of Technology, Research Laboratory of Electronics. She received her Ph.D. and her Diplome d'ingenieur (M.Sc.) in

Electrical Engineering from Telecom ParisTech and EURECOM, France. She is a member of the IEEE and the ACM.

Cordell Golden is the chief of the Data Linkage Methodology and Analysis Branch in the Division of Analysis and Epidemiology at the Centers for Disease Control and Prevention's National Center for Health Statistics (NCHS). He directs the NCHS Data Linkage program, leading agency efforts to integrate NCHS survey data with vital records and other administrative data, to expand the analytic potential of the NCHS data and to develop high-quality data resources that can be used to fill critical information gaps and inform evidence-based decision making. He also oversees the application of innovative techniques to improve linkage quality and efficiency, expand linkage opportunities, and increase access to linked files while safeguarding survey participant privacy. He received his bachelor's degree in sociology and master's degree in survey and data science from the University of Maryland.

Ken Haase is a senior computer scientist at the U.S. Census Bureau. He has a Ph.D. in computer science from the Massachusetts Institute of Technology. He also is the owner of beingmeta, inc., which has developed crucial technologies for generating, managing, and applying such metadata for search, routing, and automation. Prior experience includes being the Chief AI Officer at doc.ai, and the Chief AI Officer at Sorcero.

Brian Habing is Associate Director for Education Activities and Research at the National Institute of Statistical Sciences (NISS) and Associate Professor of Statistics at the University of South Carolina. His work at NISS has included leading and facilitating government sponsored technical expert panels on topics such as integrating multiple surveys and innovative graphics for online reports. At the University of South Carolina, he is the program director for the Data Science and Data Analytics bachelor's degree programs that have begun admitting students for Fall 2024. His research has focused on theoretical and applied issues in item response theory and educational measurement, particularly multidimensional IRT models and bringing to bear insights from multivariate statistics. He received his B.S. and M.S. in mathematics and Ph.D. in statistics from the University of Illinois at Urbana-Champaign.

Michael Hawes is senior advisor for Data Access and Privacy. He is responsible for outreach and engagement with the Census Bureau's data users on issues relating to the impact of privacy protection methodologies on the accessibility and usability of census data. Prior to joining the Census Bureau, Michael served as director of Student Privacy at the U.S. Department of Education, the department's senior policy official responsible for the administration and enforcement of federal laws governing the privacy and confidentiality of education records. Michael is a member of the Federal Committee on Statistical Methodology and chair of its Confidentiality and Data Access Committee. He has supported numerous federal government-wide initiatives relating to data privacy and confidentiality and served as a privacy consultant to the federal Commission on Evidence-based Policymaking. He is a member of the American Statistical Association, a Certified Information Privacy Professional/Government by the International Association of Privacy Professionals, and a Certified Project Management Professional by the Project Management Institute. Michael received a bachelor's degree in political science and history from Duke University and a master's degree in international relations from the University of Chicago.

Travis Hoppe is currently serving a detail as the Assistant Director of AI R&D at the White House Office of Science Technology Policy (OSTP). At his home agency he serves as the Associate Director for Data Science and Analytics at the National Center for Health Statistics within the Centers for Disease Control leading research, development, and policy work on AI. Recently, his team enabled CDC to be the first federal agency to unilaterally deploy a generative AI model, ChatGPT, to all staff. Before his tenure at the CDC, Travis co-authored The Pile, a pioneering open-source dataset used for training large language models that served as a catalyst for promoting open science within the field of AI. He holds a Ph.D. in Physics from Drexel University and served two post-docs at the National Institutes of Health. He serves as the CDC representative for the National Science and Technology Council (NSTC) for AI/ML and is a standing member of the Federal Committee on Statistical Methodology (FCSM).

H.V. Jagadish is the Edgar F. Codd Distinguished University Professor and Bernard A. Galler Collegiate Professor of Electrical Engineering and Computer Science at the University of Michigan in Ann Arbor, and director of the Michigan Institute for Data Science. Jagadish is well

known for his broad-ranging research on information management. He holds 37 patents, with an H-index of 94. He is a fellow of the Association for Computing Machinery (ACM) and of American Association for the Advancement of Science. He has served on the board of the Computing Re-search Association. He has been an associate editor for the ACM Transactions on Database Systems, program chair of the ACM SIGMOD (Special Interest Group on Management of Data) annual conference, program chair of the ISMB conference, a trustee of the VLDB (Very Large DataBase) foundation, founding editor-in-chief of the Proceedings of the VLDB Endowment, and program chair of the VLDB Conference. Since 2016, he is editor of the Morgan & Claypool "Synthesis" Lecture Series on Data Management. He has won the David E. Liddle Research Excellence Award, the ACM SIGMOD Contributions Award, and the Distinguished Faculty Achievement Award at the University of Michigan. He received his Ph.D. in electrical engineering from Stanford University.

Lucas Janson is an Associate Professor of Statistics and Affiliate in Computer Science at Harvard University. Dr. Janson has made important contributions to methodology for statistical inference on data that is high-dimensional or adaptively collected. The methods he develops enable practical and intuitive statistical inference by ensuring nonparametric validity by design, which allows analysts to seamlessly leverage modern machine learning, artificial intelligence, or domain-specific knowledge without needing to model or understand their statistical properties. He has also contributed the study of robotic motion planning via the theoretical analysis of efficient randomized algorithms for collision-avoiding control of autonomous systems. He has been awarded an NSF CAREER Award, the Bernoulli Society New Researcher Award, and the ASA Noether Early Career Scholar Award. He received his Ph.D. in 2017 from Stanford University, where his advisor was Emmanuel Candès.

Gizem Korkmaz, Ph.D., an Associate Vice President at Westat, leads Westat's data science team and coordinates data science activities across the company. Dr. Korkmaz is an economist with expertise in conducting social, behavioral, and policy research. Dr. Korkmaz applies innovative data science methods and leverages both traditional and novel data sources to address social science policy and measurement questions raised by policymakers and communities. Her work at Westat involves working with government agencies to harness the power of data to

support evidence-based policy, as well as spearheading efforts to develop strategies for responsible use of traditional and generative AI in policy and survey research. Prior to joining Westat, Dr. Korkmaz was a Research Associate Professor at the University of Virginia (UVA) and worked as a Senior Research Scientist at Coleridge Initiative. Throughout her career, Dr. Korkmaz has led several projects supported by federal government agencies, including the National Science Foundation and Department of Defense, as well as state and local agencies. She was the co-director of UVA's Data Science for the Public Good Young Scholars Program and led the launch of a Young Scholars program in Turkey. Korkmaz was selected as the 2016 Outstanding New Faculty by Virginia Tech Northern Capital Region Faculty Association.

Michael W. Link, Ph.D. is President and Chief Research Officer of Ipsos Public Affairs in the US which provides advanced data collection, analytics, and insights for solving clients' difficult information needs. This includes the Ipsos KnowledgePanel, the longest running probability panel in the US. Dr. Link is also a Past President of the American Association for Public Opinion Research (AAPOR). Along with several colleagues, he received the American Association for Public Opinion Research 2011 Mitofsky Innovator's Award for his research on address-based sampling. His numerous research articles have appeared in leading scientific journals, such as Public Opinion Quarterly, International Journal of Public Opinion Research, and Journal of Official Statistics. His recent research focuses on the intersection of generative AI and survey research, uses and limits.

David S. Matteson is Professor of Statistics and Data Science at Cornell University and Director of the National Institute of Statistical Sciences (NISS.org) - the joint research unit of the American Statistical Association (ASA), the International Biometric Society (IBS), the Institute of Mathematical Statistics (IMS). At Cornell, he is also Associate Department Chair of Statistics and Data Science, Director of Graduate Studies in Data Science, and Founding Executive Committee Member for the Cornell Center for Data Science for Enterprise and Society. His research centers on methods and theory for modeling complex human and natural processes and systems, with expertise in dynamic, spatial, functional, and network data science and machine learning. He received a CAREER Award from the National Science Foundation (NSF), the Chancellor's Award for Scholarship and Creative Activities from the State University of New

York, the inaugural Ann S. Bowers Research Excellence Award, and Faculty Research Awards from the Xerox/PARC Foundation and LinkedIn. He has served as lead PI and Director for several NSF funded collaborative institutes, and he founded and serves as Editor-in-Chief for the new open access ASA affiliated journal Data Science in Science.

Christopher Steven Marcum, Ph.D., F.G.S.A. (he/him/they/them), is a Senior Statistician and Senior Scientist in the Office of the Chief Statistician of the United States at the White House Office of Management and Budget. His portfolio focuses on data access, science and information policy, cybersecurity, and artificial intelligence. He is the Senior Advisor to the Federal Statistical Research Data Centers and the staff lead on matters related to scientific integrity and research security. Immediately, prior to his current role, Dr. Marcum served in the Biden-Harris Administration as the Assistant Director for Open Science and Data Policy in the White House Office of Science and Technology Policy (OSTP). Dr. Marcum oversaw transformative science policies in his OSTP portfolio that led to the 2022 OSTP Public Access Memo, the 2023 Federal Scientific Integrity Framework, and the White House declaring the 2023 as a Year of Open Science. Dr. Marcum received his Ph.D. in sociology from the University of California, Irvine (UCI) in 2011. He is a fellow of the Gerontological Society of America, nominated by his peers for his research, training, and advocacy on issues related to aging and the life course.

Carla Medalia is the Assistant Division Chief for Business Development in the Economic Reimbursable Surveys Division at the U.S. Census Bureau. She leads an innovative team that leverages data science methodologies and novel data sources to improve the way the Census Bureau collects, produces, and disseminates data. Her current portfolio includes establishing a supply chain data infrastructure, harmonizing record linkage methods, capturing and digitizing data, measuring the justice-involved population, and more. She has a Ph.D. in Sociology and Demography from the University of Pennsylvania.

Xiao-Li Meng is Founding Editor-in-Chief of Harvard Data Science Review and the Whipple V. N. Jones Professor of Statistics. Meng was named the best statistician under the age of 40 by Committee of Presidents of Statistical Societies (COPSS) in 2001, and he is the recipient of numerous awards and honors for his more than 150 publications in many theoretical and

methodological areas, as well as in areas of pedagogy and professional development. In 2020, he was elected to the American Academy of Arts and Sciences. He has delivered more than 400 research presentations and public speeches on these topics, and he is the author of "The XL-Files," a thought-provoking and entertaining column in the Institute of Mathematical Statistics (IMS) Bulletin. His interests range from the theoretical foundations of statistical inferences to statistical methods and computation to applications in natural, social, and medical sciences and engineering. Meng received his BS in mathematics from Fudan University in 1982 and his PhD in statistics from Harvard in 1990. He was on the faculty of the University of Chicago from 1991 to 2001 before returning to Harvard, where he served as the Chair of the Department of Statistics (2004–2012) and the Dean of Graduate School of Arts and Sciences (2012–2017).

Lisa Mirel is the Statistical Advisor at the National Center for Science and Engineering Statistics (NCSES) within the U.S. National Science Foundation. In this role Ms. Mirel serves as NCSES's senior technical statistical advisor and supports Center priorities related to survey design, statistical standards, privacy and confidentiality, data quality, and demonstration projects for a future National Secure Data Service. Prior to coming to NCSES, she served as the Chief of the Data Linkage Methodology and Analysis Branch at the National Center for Health Statistics (NCHS), Centers for Disease Control and Prevention. In that role, she directed the NCHS Data Linkage program, leading Agency efforts to integrate NCHS data collection systems with external sources of health-related administrative data.

Rebecca Nugent is the Stephen E. and Joyce Fienberg Professor of Statistics & Data Science, the Department Head for the Carnegie Mellon Statistics & Data Science Department, and an affiliated faculty member of the Block Center for Technology and Society. She received her Ph.D. in Statistics from the University of Washington in 2006. Prior to that, she received her B.A. in Mathematics, Statistics, and Spanish from Rice University and her M.S. in Statistics from Stanford University. She was won several national and university teaching awards including the American Statistical Association Waller Award for Innovation in Statistics Education and serves as one of the co-editors of the Springer Texts in Statistics. She recently served on the National Academy of Sciences study on Envisioning the Data Science Discipline: The Undergraduate Perspective and is the co-chair of the current NAS study Improving Defense

Acquisition Workforce Capability in Data Use. She is the Founding Director of the Statistics & Data Science Corporate Capstone program, an experiential learning initiative that matches groups of faculty and students with data science problems in industry, non-profits, and government organizations. Her current research focus is the development and deployment of low-barrier data analysis platforms that allow for adaptive instruction and the study of data science as a science.

David Oh is a supervisory data scientist at the Bureau of Labor Statistics (BLS), working in the Office of Compensation and Working Conditions (OCWC), Compensation Research and Program Development Group (CRPDG). David joined BLS in 2017 as an Economist and transitioned into a Data Scientist role in 2020. In 2023, David took on a supervisory role, overseeing various data science projects that use machine learning and natural language processing to improve the quality and scope of the statistics produced from the National Compensation Survey (NCS), the Occupational Requirements Survey (ORS), the Survey of Occupational Injuries and Illnesses (SOII), and the Census of Fatal Occupational Injuries (CFOI). David graduated from the University of Texas at Austin with M.S. in Economics, B.S. in Mathematics, and B.A. in Economics, Sociology, and International Relations and Global Studies.

Karin A. Orvis, Ph.D. currently serves as the Chief Statistician of the United States, in the Office of Management and Budget's Office of Information and Regulatory Affairs (OIRA). In this capacity, Dr. Orvis is responsible for leading and coordinating the decentralized U.S. Federal Statistical System to ensure it provides impartial, trusted U.S. Federal statistics foundational to informing decisions across the public and private sectors. Dr. Orvis also oversees implementation of OIRA's science policy responsibilities, and is charged with ensuring the quality, objectivity, utility and integrity of the information disseminated by Federal agencies and used in decision-making. Prior to her current role, Dr. Orvis served in senior executive-level roles across the U.S. Federal Government, strategically leading multidisciplinary, interagency teams in designing, implementing, and evaluating enterprise-wide policies and programs. Throughout all of her federal roles, she strategically leveraged data collection methods, statistical analysis, research, and program evaluation to drive policymaking decisions, and directed and

oversaw interdisciplinary research to develop new strategies to shape future policies and programs. Before joining the federal government, Dr. Orvis served as a University Professor at Old Dominion University, and worked with the private sector on programs related to employee assessment/selection, training, leader development, and organizational effectiveness.

Nancy Potok, Ph.D. has over 30 years of executive experience in the public, private, and non-profit sectors. She previously served as the Chief Statistician of the United States in the Executive Office of the President, Deputy Director and Chief Operating Officer of the U.S. Census Bureau, Deputy Under Secretary for Economic Affairs at the U.S. Department of Commerce, Chief Operating Officer of McManis & Monsalve Associates - a data analytics company, and Senior Vice President of NORC at the University of Chicago. She served as a Commissioner on the US Evidence Based Policy Making Commission, and currently chairs and serves on several Boards of nonprofit organizations and academic institutions. She is a Fellow of the American Statistical Association, a Fellow of the National Academy of Public Administration, and a SAGE at the Partnership for Public Service, where she coaches the AI for Federal Executives course. She is a former adjunct professor and current Senior Fellow at The George Washington University, and a visiting fellow at RTI International. She is the recipient of numerous awards including the Arthur S. Flemming Award, Presidential Rank Award, and Secretary of Commerce's Gold Medal. She earned her Ph.D. at the Trachtenburg School of Public Administration and Public Policy at The George Washington University.

Mark Prell is a Senior Economist at USDA's Economic Research Service where he conducts research on the country's food assistance programs, including the Supplemental Nutrition Assistance Program (SNAP, formerly known as the Food Stamp Program) and the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). He specializes in the statistical use of administrative records and linked data to promote research. Mark serves as a co-chair of the Federal Committee of Statistical Methodology (FCSM), where he helped develop the FCSM Data Quality Framework, and is a member of the National Secure Data Service (NSDS) Working Group under the leadership of the Interagency Council on Statistical Policy (ICSP). Previously, he served as Branch Chief and Assistant Deputy Director at ERS. Prior to joining ERS, he taught economics at both the graduate and undergraduate levels for a dozen years.

Minsun Riddles is a survey statistician at Westat, specializing in health, workforce, and transportation studies. She manages traditional survey tasks, from sampling and weighting to complex data analysis. Recently, she's focused on statistical confidentiality within several federal government programs, including generating synthetic survey data. Minsun currently leads efforts aimed at enhancing public data accessibility through robust privacy preserving techniques across an array of survey and non-survey programs. Excited about methodological advancements, she looks forward to learning about innovative developments at AI Day.

Nicholas Rios is interested in a wide variety of research areas in the field of Statistics. His primary research focuses on experimental design in the presence of real-world constraints. He is also interested in functional data analysis, computational statistics, Gaussian process modeling, and models for compositional data analysis, with applications to chemical engineering and pharmaceutical industries. Nicholas earned his Ph.D. in Statistics at Penn State University in 2022. His dissertation was focused on designing optimal mixture experiments. In these experiments, multiple reagents and chemicals are mixed to produce a response. The dissertation addressed the practical issue of finding optimal experiments when the order of addition of the components was important. He developed novel algorithms for finding relatively cheap and efficient experiments that allow researchers to estimate the optimal mixture and order settings.

Bob Sivinski is a Senior Statistician in the Office of the U.S. Chief Statistician at the Office of Management and Budget, the Chair of the Federal Committee on Statistical Methodology, and a third-generation civil servant. He designs and implements policies that support the integrity, objectivity, accuracy, and usefulness of federal statistics. He's always looking for opportunities to help federal statisticians and scientists coordinate across agencies, tackle difficult measurement challenges, and communicate effectively with the public.

Elizabeth A. Stuart, Ph.D. is the Frank Hurley and Catharine Dorrier Chair and Bloomberg Professor of American Health in the Department of Biostatistics at the Johns Hopkins Bloomberg School of Public Health, with joint appointments in the Department of Mental Health and the Department of Health Policy and Management. A statistician by training, her research

interests are in design and analysis approaches for estimating causal effects in experimental and non-experimental studies, including questions around the external validity of randomized trials and the internal validity of non-experimental studies. She has received research funding for her work from the National Science Foundation, the Institute of Education Sciences, the WT Grant Foundation, and the National Institutes of Health. She is currently co-Chair of the NASEM Committee on Applied and Theoretical Statistics and a member of the NASEM Committee on National Statistics.

Rochelle E. Tractenberg, Ph.D., MPH, Ph.D., PStat®, FASA, FAAAS, FISI is a tenured Professor at Georgetown University in Washington, DC. She is the author of the books "Ethical Reasoning for a Data-Centered World" and "Ethical Practice of Statistics and Data Science", both published in 2022 - which feature the ASA Ethical Guidelines for Statistical Practice and the ACM Code of Professional Ethics. She contributed or co-contributed seven chapters to the 2024 book, "Ethics in Statistics: Opportunities and Challenges", and contributed the entries on ethical statistical practice for two international encyclopedias (on working with data and statistical sciences). Professor Tractenberg is an American Statistical Association-Accredited Professional Statistician. She maintains active research programs in ethical practice of statistics and data science, ethical reasoning, and ethical quantitative practice (https://ethicalreasoning.org/) among other topics. She was the Chair (2017-2019) of the American Statistical Association Committee on Professional Ethics, serving as Vice-Chair 2014-2016. She Chaired (2014-2016; 2018) and co-Chaired (2021) the Committee's Working Groups on revising the ASA Ethical Guidelines. She joined the International Statistics Institute's Advisory Board on Ethics in 2023, serving on its Working Groups on Education and on Ethical Obligations for Working with Indigenous Data.

Tian Zheng develops novel methods for exploring and understanding patterns in complex data from different application domains. She is passionate about education and mentoring, and how they hold great potential in driving convergence and broadening participation. Dr. Zheng's research has been recognized by the 2008 Outstanding Statistical Application Award from the American Statistical Association (ASA), the Mitchell Prize from ISBA, and a Google research award. She became a Fellow of the American Statistical Association (ASA) in 2014, a Fellow of

the Institute of Mathematical Statistics (IMS) in 2022, and a Fellow of American Association for the Advancement of Science (AAAS) in 2024. From 2017-2020, she was associate director for education at Columbia Data Science Institute. Dr. Zheng is the recipient of the 2017 Columbia Presidential Award for Outstanding Teaching. In 2021, she was recognized with a Lenfest Distinguished Columbia Faculty Award that recognizes the excellence of faculty as teachers and mentors of both undergraduate and graduate students.

Hongtu Zhu is a tenured professor of biostatistics, statistics, computer science, radiology, and genetics at University of North Carolina at Chapel Hill. He was DiDi Fellow and Chief Scientist of Statistics at DiDi Chuxing between 2018 and 2020 and was Endowed Bao-Shan Jing Professorship in Diagnostic Imaging at MD Anderson Cancer Center between 2016 and 2018. He is an internationally recognized expert in statistical learning, medical image analysis, precision medicine, biostatistics, artificial intelligence, and big data analytics. He has been an elected Fellow of ASA and IMS since 2011. He received an established investigator award from Cancer Prevention Research Institute of Texas in 2016 and received the INFORMS Daniel H. Wagner Prize for Excellence in Operations Research Practice in 2019. He has published more than 320+ papers in top journals including Nature, Science, Cell, Nature Genetics, PNAS, AOS, JASA, and JRSSB, as well as 55+ conference papers in top conferences including NeurIPS, AAAI, ICML, KDD, ICDM, MICCAI, and IPMI.