Adam J. Dugan, PhD

Atlanta, Georgia • (404) 944-4176 • adam.j.dugan@gmail.com
Google Scholar (co-author on 70+ peer-reviewed manuscripts)

Accomplished biostatistician and data scientist with extensive collaborative research experience in real-world evidence, medical affairs, observational clinical research, causal inference, and preclinical pharmaceutical development, with over 70 peer-reviewed publications and a proven track record of robust statistical insights.

Professional Experience

Tempus AI Chicago, IL (remote) September 2023 - Present
Lead Real World Evidence Biostatistician, Medical Affairs

- Collaborates with external KOLs on public-facing, peer-reviewed, real-world genomic oncology research using Tempus' database of real-world clinical and molecular data along with external data sources.
- Acts as a statistical lead for the Medical Affairs team by reviewing study proposals, developing statistician analysis plans (SAPs), and continually refining best practices for statistical analysis, cohort extraction, and statistical programming.
- Mentors and oversees the statistical, collaboration, and programming work of more junior biostatisticians.
- Develops AI tools to increase efficiency and project impact. Develops internal agents, functions, and packages to streamline and standardize workflows.
- Lead biostatistical efforts within Clinical Development for studies related to treatment response monitoring (TRM) and minimal residual disease (MRD) in advanced cancers by developing statistical analysis plans (SAPs), performing real-world statistical analyses, and co-authoring abstracts and manuscripts for proof-of-concept and clinical validation studies.

23andMe, Therapeutics Sunnyvale, CA (remote) June 2022 - August 2023
Biostatistician, Health Data Analysis, Computational Biology

- Collaborated on cross-functional teams as a biostatistical expert to design real-world observational research studies, refine research objectives, and conduct statistical analyses to further 23andMe's preclinical therapeutic pipelines.
- Developed and conducted applied and methodological research on bias correction, disease clustering, and causal inference to improve 23andMe's ability to identify novel drug targets, infer disease subtypes, and draw causally valid conclusions.
- Provided statistical support and input on proposed analyses and sample size calculations while also overseeing work done by external CROs for 23andMe's on-going oncological clinical trial programs (23ME-00610).

University of Kentucky, College of Public Health Lexington, KY (remote) September 2021 - June 2022
Assistant Professor, Biostatistics

- Collaborated and acted as a co-investigator on the design, analysis, interpretation, and reporting of both observational and randomized biomedical research studies and externally funded research projects and proposals (NIH, DOD, etc.).
- Peer reviewed research manuscripts for academic journals (JAHA, etc.) and oversaw graduate student research.
- Consulted on study design, sample selection, and statistical analysis for research projects and grant proposals via a joint appointment with the Biostatistics, Epidemiology, and Research Design (BERD) core of the NIH-funded Center for Clinical and Translational Science (CCTS); studies largely relied on insurance claims and electronic health record (EHR) databases.

University of Kentucky, Institute for Biomedical Informatics Lexington, KY (remote) January 2021 - June 2022
Biostatistics Consulting and Interdisciplinary Research Collaboration Lab (CIRCL)
Lead Biostatistician / Lead Biomedical Data Scientist

- Held a joint appointment with and was a founding member of the lab and developed and maintained best practices for project management, statistical consulting, statistical programming, visualization tools, report generation, and results dissemination/communication.
- Managed, mentored, and supervised the work of staff biostatisticians and biomedical data scientists within the lab.
- Acted as a statistical and investigational lead for multiple cross-functional research groups within the College of Medicine.
- Led the development of complex statistical analysis plans for external projects and reviewed statistical analysis plans made by other biostatisticians and biomedical data scientists within the lab.

University of Kentucky, College of Medicine Lexington, KY May 2015 - August 2021
Biostatistician

- Independently collaborated with and advised multiple departments within the College of Medicine on study design, sample selection, statistical analyses, results interpretation, and results dissemination for biomedical research (including surgical oncology, urology, plastic surgery, cardiothoracic surgery, cardiology, pediatrics, emergency medicine, radiology, etc.).

Computing and Methodological Experience

- Extensive experience in R, RStudio/Posit, RMarkdown, ggplot2; experienced with cluster computing, Slurm, Github/version control, SAS, R Shiny, LaTeX, and the data processing and analytic pipelines for genomic, RNA-seq, and NanoString data types; familiarity with Python, SQL, and JAGS/STAN/WinBUGS.
- Proven track record with linear regression (least squares, weighted), logistic regression (binary, ordinal, multinomial, conditional), time-to-event regression (Cox proportional hazards +/- time-varying coefficients, competing risks, accelerated failure time), regression on correlated data (mixed-effect, generalized estimating equations, multivariate, functional data analysis), advanced regression techniques (penalized/LASSO, splines, bootstrapping), clustering/subtyping (principal component analysis, latent class analysis, latent class trajectory analysis, topic modeling), causal inference (propensity score matching, inverse probability weighting, mediation analysis, Mendelian randomization), and genetic/'omics analyses (GWAS, gene-based inference, RNA-seq, NanoString, eQTL, colocalization).

Education

University of Kentucky, Lexington, KY
Doctor of Philosophy, Epidemiology and Biostatistics, 2021
Dissertation: *Investigations into the genetics of mixed pathologies in dementia*.
Co-Chairs: David W. Fardo and Olga A. Vsevolozhskaya
- Applied novel statistical methods, like the aggregated Cauchy association test (ACAT), to perform meta-analyzed, gene-based inference for Alzheimer's disease (AD) and related dementias; leveraged 'omics data (eQTL, PheWAS, and other epigenetic markers) for validation.
- Developed a novel F-statistic for function-on-scalar linear regression models from functional data analysis (FDA) to perform gene-based, multiple-trait pleiotropy analyses; validated pleiotropic genes in non-AD dementia.

University of Kentucky, Lexington, KY
Master of Science, Statistics, 2015

University of Georgia, Athens, GA
Bachelor of Science, Mathematics, 2011

Relevant Coursework
Causal Inference - Pharmacoepidemiology - Clinical Trials - Bayesian Statistics and Hierarchical Modeling - Statistical Genetics - Epidemiologic Study Design - Advanced Study Design - Cancer Epidemiology - Analysis of Categorical Data

Selected Honors and Awards
- Inductee to the Beta Gamma Chapter of the Delta Omega Honorary Society in Public Health, March 2022.
- Clinical Science Prize from the Societies for Pediatric Urology Fall Congress for *Validation of the Modified Bosniak Classifications System to Risk Stratify Pediatric Cystic Renal Masses: An International, Multi-Site Study from the Pediatric Urologic Oncology Working Group of the Societies for Pediatric Urology,*December 2021.
- Outstanding Doctoral Student Award from the University of Kentucky's College of Public Health, April 2021.