Isaac Goldstein

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EDUCATION	**University of California, Irvine**
	PhD, Statistics Sep 2019 – Spring 2024
	Lewis & Clark College
	B.A., Mathematics with Honors May 2016
	summa cum laude

EXPERIENCE

Department of Statistics, University of California, Irvine
Graduate Student Researcher   Mar 2020 – Present
Develop new statistical models for estimating infectious disease dynamics from wastewater, case, and test data.
Provide weekly statistical estimates of SARS-CoV-2 dynamics as part of UC-CDPH Modeling Rapid Response Team
Evaluated and applied method for inferring transmission trees from tuberculosis genomic data

ISI-BUDS, University of California, Irvine
Graduate Student Mentor   Aug 2022 & Aug 2023
Mentored three teams of undergraduate students conducting statistical analyses of epidemiological data
Provided assistance with R programming questions
Provided instruction on advanced statistical concepts needed to conduct the analyses

Summer Institute in Statistics and Modeling in Infectious Diseases, University of Washington
Teaching Assistant   Jul 2023
Developed new lecture and lab for modeling epidemics with compartmental models using Stan
Helped students one on one with conceptual and programming questions

Statistics Department, University of California, Irvine
Teaching Assistant   Oct 2019 – Mar 2020
Led discussion sections to supplement main course lectures
Held office hours to help students one on one
Wrote worksheet and exam questions

Department of Ophthalmology, Oregon Health & Science University
Research Assistant 2, Ophthalmology   Oct 2016 – Jun 2019
Primary researcher on multiple medical informatics projects using secondary EHR data to address workflow and efficiency questions
Responsible for data collection, analysis, and manuscript creation
Provided statistical analysis for lab member projects

ACADEMIC HONORS & AWARDS

Beall Family Foundation Graduate Student Social Impact Award in Statistics	Mar 2023
Laverne Noyes Fellowship	Feb 2022
Honorable Mention for the NSF Graduate Research Fellowship Program	Mar 2021
Honorable Mention for the Robert L. Newcomb Graduate Student Award	Oct 2020
Phi Beta Kappa, National Honors Society	Apr 2015
Pi Mu Epsilon, National Mathematics Honors Society	Oct 2014

TECHNICAL SKILLS

Julia, R, Stan; experience with BEAST, Python, Slurm Workload Manager

PUBLICATIONS

PREPRINTS Goldstein IH, Parker DM, Jiang S, Minin VM. "Semiparametric inference of effective reproduction number dynamics from wastewater pathogen surveillance data." arXiv:2308.15770. On Submission.

Bayer D, Fintzi J, Goldstein IH, Lumbard K, Ricotta E, Warner S, Busch LM, Strich JR, Chertow DS, Parker DM, Boden-Albala B, Dratch A, Chhuon R, Quick N, Zahn M, Minin VN†. "Semi-parametric modeling of SARS-CoV-2 transmission in Orange County, California using tests, cases, deaths, and seroprevalence data," *Annals of Applied Statistics.* Accepted.

PEER-REVIEWED JOURNALS

Goldstein IH, Wakefield J, Minin VM. "Incorporating testing volume into estimation of effective reproduction number dynamics," *Journal of the Royal Statistic Society: Series A*, 2023;, qnad128, https://doi.org/10.1093/jrsssa/qnad128

Goldstein IH, Bayer D, Kizito B, Matsiri O, Modongo C, Zetola N, Niemann S, Minin VN, Shin S. "Using genetic data to identify transmission risk factors: statistical assessment and application to tuberculosis transmission." *PLOS Computational Biology*, 18.12: e1010696, Dec 2022.

Dusek, H, Goldstein IH, Rule A, Chiang MF, Hribar MF. "Clinical Documentation During Scribed and Non-scribed Ophthalmology Office Visits ." *Ophthalmology Science*, 1.4:100088, Dec 2021.

Chen J, Hribar M, Goldstein IH, Rule A, Lin WC, Dusek H, Chiang MF. " Electronic health record note review in an outpatient specialty clinic: who is looking?" *Jamia Open*, 4(3):ooab044, Jul 2021.

Henriksen B, Goldstein IH, Rule A, Huang AE, Dusek HL, Igelman A, Chiang MF, Hribar MR. "Electronic Health Records in Ophthalmology: Source and Method of Documentation." *American Journal of Ophthalmology*, 211: 191-199, Mar 2020.

Bellsmith K, Brown J, Jin Kim S, Goldstein IH, Coyner A, Ostmo S, Gupta K, Paul Chan RV, Kalpathy-Cramer J, Chiang MF, Campbell PJ. "Aggressive Posterior Retinopathy of Prematurity: Clinical and Quantitative Imaging Features in a Large North American Cohort." *Ophthalmology*, 127.8: 1105-1112., Feb 2020.

Hribar MR, Rule A, Huang AE, Dusek HL, Goldstein IH, Henriksen B, Lin WC, Igelmen A, Chiang MF."Redundancy of Progress Notes for Serial Office Visits." *Ophthalmology*, 127(1): 134-135, Jan 2020.

Goldstein IH, Gowrisankaran S, Hwang T, Bales R, Chiang MF, Hribar MR. "Changes in EHR use time and documentation over a decade of use." *Ophthalmology*, 126(6): 783-791, Jun 2019.

Hribar MR, Huang AE, Goldstein IH, Reznick LG, Kuo A, Loh AR, Karr DJ, Wilson L, Chiang MF. "Data Driven Scheduling for Improving Patient Efficiency in Ophthalmology Clinics." *Ophthalmology*, 126.3 : 347-354, 2019.

Hribar MR, Read-Brown S, Goldstein IH, Reznick LG, Lombardi L, Parikh M, Chamberlain W, Chiang MF. "Secondary use of electronic health record data for clinical workflow analysis." *Journal of the American Medical Informatics Association*, 25(1):40-46, Jan 2018.

Goldstein IH, Hribar MR, Read-Brown S, Chiang MF. "Association of the Presence of Trainees With Outpatient Appointment Times in an Ophthalmology Clinic." *JAMA Ophthalmology*, 136(1): 20-26, Jan 2018.

Chen YP, Goldstein IH, Lathrop ED, Nelson RB. "Computing an Expected Hitting Time for the 3-Urn Ehrenfest Model via Electric Networks." *Statistics and Probability Letters*, 127:42-48, April 2017.

Lathrop ED, Goldstein IH, Chen YP. "A note on a generalized Ehrenfest urn model: another look at the mean transition times." *Journal of Applied Probability*, 53(2): 630-632, June 2016.

CONFERENCE PAPERS Goldstein IH, Parker DM, Jiang S, Minin VM. "Semiparametric Inference of the Effective Reproduction Number Dynamics from Pathogen RNA Counts Collected from Wastewater." Anchorage, AK. 2023. *Western North American Region of the International Biometric Society.*

Goldstein I, Wakefield J, Minin VN. "Improving and Evaluating Methods for Estimating Changes in the Effective Reproduction Number." Remote. 2022. *Western North American Region of the International Biometric Society.*

Chen J, Goldstein IH, Lin WC, Chiang MF, Hribar MR. "Application of Machine Learning to Predict Patient No-Shows in an Academic Pediatric Ophthalmology Clinic." Remote. 2020. *AMIA Annual Symposium Proceedings.*

Hribar MR, Dusek HL, Goldstein IH, Rule A, Chiang MF. "Methods for Large-Scale Quantitative Analysis of Scribe Impacts on Clinical Documentation." Remote. 2020. *AMIA Annual Symposium Proceedings.*

A Rule, Goldstein IH, Chiang MF, Hribar MR. "Clinical Documentation as End-User Programming." Virtual, USA, April 2020. *CHI Conference on Human Factors in Computing Systems.* https://doi.org/10.1145/3313831.3376205

Goldstein IH, Hribar MR, Reznick LG, Chiang MF. "Analysis of Total Time Requirements of Electronic Health Record Use by Ophthalmologists Using Secondary EHR Data." San Francisco, CA. November 2018. *AMIA Annual Symposium Proceedings.* In press.

Hribar MR, Biermann D, Goldstein IH, Chiang MF. "Clinical Documentation in Electronic Health Record Systems: Analysis of Patient Record Review During Outpatient Ophthalmology Visits." San Francisco, CA. November 2018. *AMIA Annual Symposium Proceedings.* In press.

Huang AE, Hribar MR, Goldstein IH, Henriksen B, Lin WC, Chiang MF. "Clinical Documentation in Electronic Health Record Systems: Analysis of Similarity in Progress Notes from Consecutive Outpatient Ophthalmology Encounters." San Francisco, CA. November 2018. *AMIA Annual Symposium Proceedings.* In press.

Lin WC, Goldstein IH, Hribar MR, Chiang MF. "Secondary Use of Electronic Health Record Data for Prediction of Outpatient Visit Length in Ophthalmology Clinics." San Francisco, CA. November 2018. *AMIA Annual Symposium Proceedings.* In press.

Goldstein IH, Hribar MR, Sarah RB, Chiang MF. "Quantifying the Impact of Trainee Providers on Outpatient Clinic Workflow using Secondary EHR Data." Washington, DC. November 2017. *AMIA Annual Symposium Proceedings*, 2017: 760-769, April 2018.

CONFERENCE PRESENTATIONS & POSTERS

Goldstein IH, Parker DM, Jiang S, Minin VM."Semiparametric Inference of Effective Reproduction Number Dynamics with RNA Counts and Minimal Compartmental Models." Oberwolfach, Germany, Feb 2023. Design and Analysis of Infectious Disease Studies (Mathematisches Forschungsinstitut Oberwolfach).

Goldstein IH, Parker DM, Jiang S, Minin VM. "Using infectious disease RNA counts from wastewater surveillance to estimate the effective reproduction number." Washington DC, October 2022. Models of Infectious Disease Agent Study.

Hribar MR, Lin WC, Goldstein IH, Chiang MF. "Machine Learning for Prediction of Pediatric Ophthalmology Examination Lengths and Scheduling Optimization."March 2019. American Association for Pediatric Ophthalmology and Strabismus.

Chiang MF, Goldstein IH, Henriksen B, Huang A, Chen J, Reznick LG, Wilson L, Hribar MR. "Pediatric ophthalmology documentation using electronic health records (EHRs): where does the data come from, and how often is it reviewed?" March 2019. American Association for Pediatric Ophthalmology and Strabismus.

Chiang MF, Henriksen B, Huang A, Goldstein I, Hribar MR. "Clinical ophthalmology documentation using electronic health records: how much text is new, and who is writing it?" Dana Point, CA. May 2018. American Ophthalmological Society.

Goldstein IH, Hribar MR, Chiang MF. "Changes in Electronic Health Record use time over a decade of use." Honolulu, HI. May 2018. *IOVS* 2018;59(9): ARVO E-Abstract 4156.

Henriksen B, Goldstein I, Hribar MR, Huang AE, Chiang MF. "Electronic Health Records in Ophthalmology: Source and Method of Documentation." Honolulu, HI. May 2018. *IOVS* 2018; 59: ARVO E-Abstract 4155

Hribar MR, Read-Brown S, Goldstein I, Reznick L, Chiang MF. "Improving Clinic Wait Times with Scheduling Templates." Honolulu, HI. May 2018. *IOVS* 2018; 59: ARVO E-Abstract 5248

Chiang MF, Goldstein I, Read-Brown S, Hribar MR. "Impact of resident and fellow trainees on patient encounter length in an academic ophthalmology center." American Ophthalmological Society. Bath County, VA. May 2017.

Goldstein IH, Hribar MR, Read-Brown S, Chiang MF. "Quantifying the Impact of Trainees on Outpatient Ophthalmology Clinic Workflow." Baltimore, MD. May 2017. *IOVS* 2017;58: ARVO E-Abstract 5060

Reznick L, Hribar MR, Read-Brown S, Goldstein I, Chiang MF, Yackel TR. "Impact of Medical Trainees on Clinical Efficiency in a Pediatric Ophthalmology Practice." Nashville, TN. April 2017. American Association for Pediatric Ophthalmology and Strabismus annual meeting.