AMELIA H. TRAN

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CONTACT INFORMATION

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Personal website

RESEARCH INTEREST

Survival analysis, causal inference, time series, machine learning for biomedical data, clinical trials, personalized medicine, health policy

EDUCATION

University of Pennsylvania, Philadelphia, PA — May 2023
M.S. in Biostatistics
Advisor: Douglas Schaubel, Ph.D.

Mount Holyoke College, South Hadley, MA — May 2021
B.A. in Statistics, Data Science. *Summa Cum Laude*

INDUSTRY EXPERIENCE

Genentech Inc., South San Francisco, CA
Analytical Data Scientist — Jun 2023 -

- Lead data science teams to provide clinical statistical analysis and R/SQL/SAS programming support to hematology and ophthalmology molecules
- Manage variable derivation, quality control, and delivery of TLG outputs to clinical science, pharmacology, regulatory teams across Product Development
- Co-develop *admiraldiscovery* website to document the functionality of *admiral* family of open-source R packages as part of pharmaverse movement

Regeneron Pharmaceuticals Inc., Tarrytown, NY
Biostatistics Intern — Jun 2022 - Aug 2022

- Quantified physical activity with *arctools* R package to generate analysis for minute-level accelerometry data from NHANES and Regeneron clinical trials
- Performed harmonization mapping on internal clinical data to obtain physical activity summaries on reproducible metrics for comparison purposes
- Explored different intraclass correlation structures, i.e. independent, autoregressive, exchangeable, to investigate day-to-day physical activity variability

ACADEMIC EXPERIENCE

University of Pennsylvania, Philadelphia, PA
Graduate Research Assistant Sep 2021 - May 2023

- *MS thesis*: Evaluated a novel prognostic score-based weighting approach for facility profiling metrics and its application to U.S. kidney transplant centers
- Worked on kidney disease related projects to estimate causal effects of transplant centers, multiple wait-listing, HCV-infected kidney transplants, on survival

Institute for Pure and Applied Mathematics, Los Angeles, CA
Applied Math Research Fellow Jun 2021 – Aug 2021

- Worked for Advanced Micro Devices Inc. (AMD) to develop physics-informed neural network models in Python to simulate wave propagation
- Embedded physics constraints, i.e. PDEs of wave equation and initial/boundary conditions, into loss function to design optimal network architecture

Memorial Sloan Kettering Cancer Center, New York City, NY
Biostatistics Research Fellow Jun 2020 – Aug 2020

- Evaluated association between biomarker bilirubin and survival in cirrhosis with Cox PH, time-dependent Cox and Joint Model for longitudinal and survival data
- Wrote R functions to extract interval endpoints and event statuses from patients' enrollment time and to impute missing data with last observation

Mount Holyoke College, South Hadley, MA
Undergraduate Research Assistant Jun 2019 – May 2020

- Contributed to *ncopula* R package to develop nested Archimedean copula models
- Designed comprehensive unit tests to examine the package functionality and provided reproducible documentation with relevant mathematical formulae

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HONORS AND AWARDS

1. Student Travel Award. *Women in Statistics and Data Science.* 2023
2. Most Valued Player Award for Service to Advocacy, *University of Pennsylvania Graduate and Professional Student Assembly.* 2023
3. Phi Beta Kappa, *Theta Chapter of Massachusetts.* 2021
4. Mu Sigma Rho, *The Boston Chapter of the American Statistical Association.* 2021
5. Five College Statistics Prize, *The Five College Statistics Program.* 2021
6. Mary Lyon Scholar, *Mount Holyoke College.* 2021
7. Global Competence Award, *McCulloch Center for Global Initiatives.* 2021

8. Electronic Undergraduate Statistics Research Best Video Presentation Winner, *The Consortium for the Advancement of Undergraduate Statistics Education and the American Statistical Association.* 2020

9. George Cobb Statistics Prize for Excellence in Statistics, *Mount Holyoke College Department of Mathematics and Statistics.* 2020

10. Paul Saintonge Prize for Superior Achievement in French, *Mount Holyoke College French Department.* 2019

11. Sylvia Sherk Hubbell Class of 1939 Book Prize for Excellence in French, *Mount Holyoke College French Department.* 2018

PEER-REVIEWED PUBLICATIONS

1. Schaubel DE, **Tran AH**, Abt PL, Potluri VS, Goldberg DS, Reese PP. Five-Year Allograft Survival for Recipients of Kidney Transplants From Hepatitis C Virus Infected vs Uninfected Deceased Donors in the Direct-Acting Antiviral Therapy Era. Journal of American Medical Association (JAMA). 2022;328(11):1102–1104.

2. Davini D*, Samineni B*, Thomas B*, **Tran AH***, Zhu C*, Ha K, Dasika G, White L. Using physics-informed regularization to improve extrapolation capabilities of neural networks. Machine Learning and the Physical Sciences Workshop, Neural Information Processing Systems (NeurIPS) 2021.

INFORMAL MANUSCRIPT

1. **Tran AH**. Statistical Analysis of the Association between Bilirubin and Survival in Primary Biliary Cirrhosis. Mount Holyoke College Mathematics and Statistics Department Senior Thesis. May 2021.

WORKING PAPERS

1. **AH Tran**, PP Reese, DE Schaubel. Evaluating a facility-profiling metric based on survival probability: Application to U.S. transplant centers.

2. Y Lee, PP Reese, **AH Tran**, DE Schaubel. Prognostic score-based methods for estimating center effects based on survival probability: Application to post-kidney transplant survival.

3. VS Potluri, **AH Tran**, N Kye, N Al Haddad, S Tandukar, TB Dunn, P Reese, DE Schaubel. Multiple Listing In Kidney Transplantation Following Implementation Of The Concentric Circle Kidney Allocation Policy.

* *indicates co-first authorship*

CONTRIBUTED TALKS

1. Evaluating a Facility-Profiling Metric based on Survival Probability: Application to U.S. Transplant Centers, *Women in Statistics and Data Science*, Bellevue, WA, October 2023
2. Quantifying Physical Activity with Accelerometry Data: Application to Observational Study, *Regeneron Pharmaceuticals Inc.*, Tarrytown, NY, August 2022
3. Using Physics-Informed Regularization to Improve Extrapolation Capabilities of Neural Networks, *Joint Mathematics Meetings*, April 2022
4. Using Physics-Informed Regularization to Improve Extrapolation Capabilities of Neural Networks, *Institute for Pure and Applied Mathematics*, Los Angeles, CA, August 2021
5. Association between Bilirubin and Survival in Primary Biliary Cirrhosis, *Electronic Undergraduate Statistics Research Conference*, November 2020
6. Association between Bilirubin and Survival in Primary Biliary Cirrhosis, *Memorial Sloan Kettering Cancer Center*, New York, NY, August 2020

CONTRIBUTED POSTERS

1. Evaluating a Facility-Profiling Metric based on Survival Probability: Application to U.S. Transplant Centers, *Women in Statistics and Data Science*, Bellevue, WA, October 2023
2. Multiple Listing In Kidney Transplantation Following Implementation Of The Concentric Circle Kidney Allocation Policy, *American Transplant Congress*, San Diego, CA, June 2023
3. Using Physics-Informed Regularization to Improve Extrapolation Capabilities of Neural Networks, *Joint Mathematics Meetings*, April 2022
4. Using Physics-Informed Regularization to Improve Extrapolation Capabilities of Neural Networks, *Neural Information Processing Systems*, December 2021

PROFESSIONAL SERVICE

Co-host, North America Data Sciences Forum (NADF) meetings, 2024 - Genentech/Roche Product Development Data Sciences

Co-host, gRED Oncology Analytical Data Science (ADS) meetings, 2024 - Genentech Research and Early Development (gRED)

Committee Member, International Student Affairs, 2022 – 2023
University of Pennsylvania Graduate and Professional Student Assembly

Invited Panelist, Graduate School Information Session, 2022
Mount Holyoke College Chapter of the Association for Women in Mathematics

Student Liaison, Department of Mathematics and Statistics, 2020 – 2021
Mount Holyoke College

Co-President, French Club, Mount Holyoke College, 2020 – 2021

Board Member, HackHolyoke (24-hour hackathon), Mount Holyoke College, 2020

TEACHING EXPERIENCE

Mount Holyoke College, South Hadley, MA
Teaching Assistant & Grader

- Stat 343: Mathematical Statistics, Spring 2021
- Comsc 312: Algorithms, Spring 2021
- Stat 242: Intermediate Statistics, Spring 2020
- Comsc 205: Data Structures, Fall 2019
- Math 101: Single Variable Calculus, Spring 2019

PROFESSIONAL MEMBERSHIPS

American Statistical Association
Association for Women in Mathematics
International Biometric Society Eastern North American Region

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TECHNICAL SKILLS

Statistical Software: R, Stata, SAS, SPSS
Computing: Python, Java, SQL
Technologies: Eclipse, Git, LaTeX, Jupyter Notebook

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