

Tiffany Tang

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EDUCATION

Aug 2018 – **University of California, Berkeley**, Berkeley, CA
present Ph.D. Candidate in Statistics

May 2018 **Rice University**, Houston, TX
Bachelor of Science in Mathematics, Bachelor of Arts in Statistics
Summa cum laude, Distinction in Research and Creative Work

RESEARCH INTERESTS

Statistical Machine Learning, Applied Statistics, Data Integration, High-Dimensional Data, Applications in Genomics and Bioinformatics

RESEARCH EXPERIENCE

Aug 2018 – **University of California, Berkeley**, Berkeley, CA
present *Advisor:* Bin Yu

- Projects include COVID-19 forecasting and data curation, drug response prediction modeling, and understanding gene interactions in cardiomyopathy

May 2020 – **Genentech**, South San Francisco, CA
Aug 2020 *Managers:* Ning Leng and Jane Fridlyand

- Biostatistics intern in PD Biometrics; explored new and existing methods for building a generalizable biomarker using historical real clinical trials data

Jan 2017 – **Rice University Department of Statistics**, Houston, TX
July 2018 *Advisor:* Dr. Genevera Allen

- Developed new supervised and unsupervised data integration/fusion methods to facilitate analyses with multiple related data sets (e.g., integrative -omics data)

May 2016 – **Baylor College of Medicine Summer Medical and Research Training Program**, Houston, TX
Dec 2016 *Project:* The Effects of Malnutrition in Young Adult Mice with Applications to Children's Nutrition
Advisor: Dr. Marta Fiorotto

- Built a reproducible analysis pipeline in R including outlier detection schemes and mixed models to evaluate the long-term effects of neonatal under-nutrition on the growth of skeletal muscles

Sep 2015 – **Rice University Center for Civic Leadership - Houston Action Research Team**, Houston, TX
May 2016 *Project:* Houston Public Library (HPL) Pattern Assessment

Advisors: Dr. Robert Stein, Dr. Alan Steinberg, Dr. Elizabeth Vann, Dr. Antonia Sebastian

- Mined over two million library transactions from 100,000 HPL customers to determine customer loyalty patterns in Houstonian library usage and provide practical suggestions to guide future HPL operations and decision-making

PUBLICATIONS

1. Lu, Y., Fridlyand, J., **Tang, T. M.**, Qi, T., Simon, N., Leng, N. The Future will be Different than Today: Model Evaluation Considerations when Developing Translational Clinical Biomarker. *KDD Health Day - DSHealth Workshop* (2021).
2. Singh, C., Nasser, K., Tan, Y., **Tang, T. M.**, Yu, B. imodels: a python package for fitting interpretable models. *Journal of Open Source Software* 6.61 (2021): 3192.
3. **Tang, T. M.*** and Allen, G. I. Integrated Principal Components Analysis. *Journal of Machine Learning Research* 22.198 (2021): 1-71.
4. Baker, Y., **Tang, T. M.**, and Allen, G. I. Feature Selection for Data Integration with Mixed Multi-view Data. *Annals of Applied Statistics* 14.4 (2020): 1676-1698.

5. Li, X., **Tang, T. M.***, Wang, X., Kocher, J., and Yu, B. A stability-driven protocol for drug response interpretable prediction (staDRIP). *ML4H: Machine Learning for Health - Extended Abstract (NeurIPS Workshop)* (2020).
6. Altieri, N., Barter, R. L., Duncan, J., Dwivedi, R., Kumbier, K., Li, X., Netzorg, R., Park, B., Singh, C., Tan, Y., **Tang, T. M.***, Wang, Y., Zhang, C., and Yu, B. Curating a COVID-19 data repository and forecasting county-level death counts in the United States. *Harvard Data Science Review* (2020).

POSTERS AND PRESENTATIONS

1. Altieri, N., Barter, R. L., Duncan, J., Dwivedi, R., Kumbier, K., Li, X., Netzorg, R., Park, B., Singh, C., Tan, Y., **Tang, T. M.**, Wang, Y., Zhang, C., and Yu, B. Curating a COVID-19 data repository and forecasting county-level death counts in the United States. JSM Invited Talk. 2021.
2. Altieri, N., Barter, R. L., Duncan, J., Dwivedi, R., Kumbier, K., Li, X., Netzorg, R., Park, B., Singh, C., Tan, Y., **Tang, T. M.**, Wang, Y., Zhang, C., and Yu, B. Curating a COVID-19 data repository and forecasting county-level death counts in the United States. Women in Data Science Berkeley. 2021.
3. Li, X., **Tang, T. M.**, Wang, X., Kocher, J., and Yu, B. A stability-driven protocol for drug response interpretable prediction (staDRIP). *ML4H: Machine Learning for Health (NeurIPS Workshop)*. 2020.
4. Altieri, N., Barter, R. L., Duncan, J., Dwivedi, R., Kumbier, K., Li, X., Netzorg, R., Park, B., Singh, C., Tan, Y., **Tang, T. M.**, Wang, Y., Zhang, C., and Yu, B. Curating a COVID-19 data repository and forecasting county-level death counts in the United States: A data perspective. Data Science Conference on COVID-19. 2020.
5. **Tang, T. M.**, Allen, G. I. "Integrated Principal Components Analysis." Joint Statistical Meetings. 2019.
6. **Tang, T. M.**, Allen, G. I. "Integrated Principal Components Analysis." WNAR Meeting. 2019.
7. **Tang, T. M.**, Fiorotto, M. "Evaluation of Mice Activity Patterns Following Neonatal Under-nutrition with Applications to Children's Nutrition." Summer Medical and Research Training Program Presentation. Baylor College of Medicine. 2016.
8. Patel, S., **Tang, T. M.**, Tibaldi, M., Zook, M. "The Dynamic Role of Libraries: How Customer and Library Characteristics Drive Houston Public Library Usage." Rice Undergraduate Research Symposium. Rice University. 2016.

ACADEMIC AND RESEARCH AWARDS

- 2019-2024 National Science Foundation Graduate Research Fellowship
- 2019-2022 National Defense Science and Engineering Graduate Fellowship (Declined)
- 2020 Genentech Summer Intern Project Showcase - Winner in Product Development
- 2019-2020 UC Berkeley Outstanding Graduate Student Instructor Award
- 2019 JSM Biometrics Section David P. Byar Young Investigator Award
- 2019 WNAR Most Outstanding Student Paper Award
- 2018 Rice Engineering Alumni Senior Statistics Merit Award
- 2018 J. Venn Leeds Award for Excellence in Scholarship
- 2017 Rice University Bray Prize in Mathematics
- 2017 Rice Engineering Alumni Junior Statistics Merit Award
- 2016, 2017 Louis J. Walsh Scholarship in Engineering
- 2016 Rice Undergraduate Research Symposium - 1st prize in the Social Sciences division

ACTIVITIES AND SERVICE

- 2019-2021 Statistics Graduate Student Association, Service Committee Lead
- 2019 NSF GRFP Workshop, Co-organizer
- 2017-2018 Dean of Engineering's Student Advisory Council, Undergraduate Representative for Statistics
- 2017-2018 Rice DataSci Club, Co-founder
- 2016-2018 Sid Richardson College Academic Fellows Society, Peer Math and Statistics tutor
- 2015-2018 Sid Richardson College Peer Academic Advisor

TEACHING

Graduate Student Instructor, UC Berkeley

Fall 2019 STAT 215A Applied Statistics (graduate course)

Undergraduate Grader, Rice University

Sep 2015 – STAT 613 Statistical Machine Learning (graduate course)

May 2018 MATH 354 Honors Linear Algebra

MATH 355 Linear Algebra

MATH 212 Multivariable Calculus

MATH 211 Ordinary Differential Equations